

CARTOON ANIMALS

JOSE ALVES DA SILVA EXPLAINS THE PROCESS USED TO CREATE HIS FANTASTIC ARMADILLO CHARACTER.



Futuristic Vehicles

In our new vehicle based tutorial series **Dhilip Somesh** shows us how a simple model in 3D can be textured, painted and lit in Photoshop.



Modeling Features of the Human Anatomy

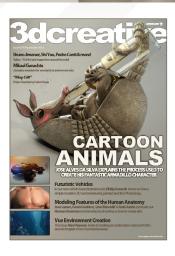
Jose Lazaro, Gavin Goulden, Lino Masciulli & Anto Juricic conclude our Human Anatomy tutorial series by showing us how to create skin.



Vue Environment Creation

This issue **Alex Popescu** looks at creating an underwater coral reef in the second chapter of our Vue tutorial series.

3dcreative



EDITORIAL

Welcome to the 73rd issue of 3DCreative magazine. So what does September have in store for you? Is it time to go back to reality and head on back to school, college or University? Whatever you face over the next month 3Dcreative is here to give you your fix of 3D training and inspiration.

I think you will all agree with me that this month's cover image is an absolute cracker! Jose Alves da Silva always impresses with both his outstanding artwork and his generosity in sharing the entire process from beginning to end with us. In this month's Cartoon Animals tutorial Jose will be showing us step by step everything he did to create his jaw-dropping cartoon armadillo.

We said a fond farewell to our Low-Poly Characters tutorial last month, but the good news is that we have a great new series that I think you are going to love! Futuristic vehicles are a common subject matter in digital art. When you are creating a model to be animated it can be a long drawn out process unwrapping and texturing the whole image, but what if it is just for a still? The power of Photoshop is revealed again in our new Futuristic vehicles series, where Dhilip Somesh will be showing us how to take a basic un-textures car model and turn it into a cool still of a futuristic vehicle using tools in Photoshop.

Last month we started our first ever Vue tutorial series where Alex Popescu showed us how to get great results in a short period of time using Vue and Photoshop. In this issue Alex will be showing us how we can adjust our approach to create a totally different kind of scene, in this case an underwater coral reef. Yet again the results are really impressive.

Well it is time to say a sad goodbye. This issue contains the final chapter in the Modeling Features of the Human Anatomy series. We say farewell to Jose Lazaro, Lino Masciulli and Anto Juricic who will be wrapping things up by showing us how they create skin for their models in their professional work. The astute of you will have noticed that there was a name missing from that list, the reason it is missing is not because Gavin Goulden has not prepared a tutorial about skin, but because we are not ready to say goodbye to him just yet. In next month's issue we will be starting a groundbreaking new series which Gavin will be helping us with; Swordmaster 2!



CONTENTS What's in this month?



MIKAEL GENACHTE



The Gallery 10 of the Best 3D Artworks



FUTURISTIC VEHICLES Chapter 1: Amphibious Vehicle



CARTOON ANIMALS Chapter 3: Armadillo



Vue Environment Creation Chapter 2: The Reef



"MAY GIFT" Project Overview by Carlos Ortega



The Two Mighty Kings" Digital Art Masters: Volume 5 - Free Chapter



MODELING HUMAN ANATOMY Chapter 6: Skin



ABOUT US 3DTotal.com Ltd Information & Contacts

Copyright © 1999-2011 3DTotal.com Ltd. All Rights reserved

All products and websites created/published by 3DTotal.com Ltd including www.3dtotal.com. www.3dcreativemag.com, www.2dartistmag.com all physical books, ebooks, emags, video content, texture libraries and any future releases may not be reproduced in any form or by any means, without the prior written consent of the publisher.

EDITOR LAYOUT CONTENT Simon Morse Layla Khani Simon Morse Jo Hargreaves Matt Lewis Tom Greenway LEAD DESIGNER Richard Tilbury MARKETING Chris Perrins Chris Perrins Amy Bayliss

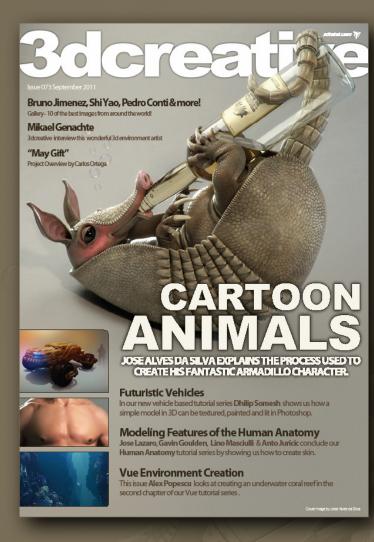
FREE STUFF!

Wherever you see this symbol, click it to download resources, extras & even movies!



PROOFING

Wow I am running out of space. I better be quick to tell you about the amazing making of in this issue by Carlos Ortega. I have no doubt that you will remember his cool image May Gift, well in this issue he tells us how it was done. We also have a great interview with VFX specialist Mikael Genachte and a breath-taking gallery featuring work by Rudolf Herzog, Pedro Conti, Tomas Müller and many more outstanding artists.



SETTING UP YOUR PDF READER

For optimum viewing of the magazine, it is recommended that you have the latest Acrobat Reader installed. You can download it for free, here: DOWNLOAD!

To view the many double-page spreads featured in 3DCreative magazine, you can set the reader to display 'two-up', which will show double-page spreads as one large landscape image:

- 1. Open the magazine in Reader;
- 2. Go to the \overline{VIEW} menu, then \overline{PAGE} $\overline{DISPLAY}$;
- 3. Select TWO-UP CONTINUOUS, making sure that SHOW COVER PAGE is also selected.

That's it!

Get the most out of your Magazine!

If you're having problems viewing the double-page spreads that we feature in this magazine, follow this handy little guide on how to set up your PDF reader!







ONTRIBUTING ARTISTS

Every month artists from around the world contribute to 3DCreative, and you can find out a little more about them right here! If you'd like to get involved in 3DCreative magazine, please contact: simon@3dtotal.com



OSE Ĺazaro

Jose Lazaro is a freelance character artist based in the UK. After working in big titles like CastleVania Lords of Shadow and



Dead to Rights he has decided to change his career creating characters for indie games with more artistic and technical control, developing the pipeline and the final result. Currently he is a mentor for one of the best CG schools. http://josemlazaro.com/blog/

ballobello@gmail.com



Gavin GOULDEN

Gavin Goulden is a character artist for Irrational Games working on Bioshock Infinite. With 6 years games industry

experience, he has contributed character and environment art assets to multiple titles including Dead Rising 2, The Bigs 2, Damnation and FEAR 2.



LINO MASCIULLI

Lino Masciulli worked as an art director in the advertising field until 2006. In recent years he moved into the entertainment



industry by working as the senior modeler for Rainbow CGI in Rome participating in the production of "Winx and the Secret of the Lost Kingdom", "Winx Club 3D Magic Adventure" and other movies. He currently works for the same company on other animated feature films. www.linomasciulli.com | cardinal_@hotmail.it



ANTO JURICIC

Anto Juricic Toni is a character artist and he currently lives in Bosnia and Herzegovina, where he works at Primetime

Studio as a modeler and texture artist on animated features. Along with his passion for creating CG characters he also enjoys teaching others and sharing his techniques through many online tutorials and publications. http://anto-toni.cgsociety.org/gallery/ monty.band@gmail.com



ALEX **POPESCU**

Alex Popescu works in the visual effects industry specializing in film work. He concentrates on digital set creation,



environment design and concept art. He also works on set extensions and 2D matte paintings. At the moment he works as a Lead DMP\ Environment artist at MPC London. http://www.alexpopescu.net/ alex@alexpopescu.net



JOSE ALVES DA SILVA

Jose Alves da Silva has been working in the 3D field for over 15 years. Jose has a degree in Architecture but now works as

a full time freelancer dedicated to his true passions - character creation and illustration. This has given Jose the opportunity to work on some spectacular projects in the feature film, advertising and gaming industries.

http://www.artofjose.com
joalvessilva@netcabo.pt



WOULD YOU LIKE TO CONTRIBUTE TO 3DCREATIVE OR 2DARTIST MAGAZINE?

We are always looking for tutorial artists, gallery submissions, potential interviewees, 'making of' writers, and more. For more information, please send a link to your portfolio, or send examples, to: simon@3dtotal.com





Bring Your Character Animation School Home



NER ENGEL Melbourne, Australia Animator Reel FX

When I went to Animation Mentor, I learned something about myself that I didn't know before. It's called perseverance! You're not a sit-in-the-class/listen-to-bland-lecture kind of student. Nope, you're part of the roll-up-your-sleeves-and-dive-into-it mindset.

We have a lot in common.

- Around here, you'll learn face-to-face from top animators working in the industry.
- You'll join a thriving global community of students, alumni, mentors and industry professionals.
- And you'll enjoy personal and academic coaching, career services counseling and a dedicated crew to support and cheer you on!

So go ahead, BE A DRAMA QUEEN ... right here at Animation Mentor.





Learn Animation from the Best in the Business





During his career he has covered a multitude of roles from matte painting and camera mapping through to modeling, lighting and compositing.

MIKAEL GENACHTE Interview 3dcreative

It is evident from your résumé that you studied graphics and illustration before specializing in 3D after leaving school, but what was it that prompted you to pursue this particular branch of computer graphics?

After graduating from a drawing school (Ecole Pivaut in Nantes), I worked at a graphic design company for four years. One of our clients was a local radio station and every week I had to make some flyers and posters for them. It was really enjoyable because they let me do pretty much whatever I wanted.

Then a friend showed me some software called Bryce 3D. He created a sphere and placed a chrome shader above it. I was very impressed. Then, he animated this sphere from the right to the left, which was unbelievable to me! I later asked my company to buy Bryce, Poser and Amapi, and I started testing my new toys on the flyers and posters for that same radio station that still gave me a lot of freedom.

One year later, I finally decided to specialize in 3D and I studied 3ds Max at a school in Lyon (Ecole Emile Cohl) for one year. There, I made a short movie with a colleague in four and a half months, which allowed me to get a job at BUF Compagnie seven and a half years ago, before moving on to the Moving Picture Company and Rhythm and Hues.











As an environment artist you cover a number of disciplines, but from your list of tasks what do you spend most time doing and which do you enjoy the most?

There are two things I really enjoy. The first one is matte painting in Photoshop. That's the most time-consuming task and involves the greatest amount of amendments.

"I STILL LOVE TO BE GIVEN THE OPPORTUNITY TO WORK ON AS MANY ASPECTS AS POSSIBLE"

The second one is camera mapping. I'll never get tired of seeing a matte painting come to life through an animated camera.

That being said, as I started my career as a generalist at BUF Compagnie, I still love to



be given the opportunity to work on as many aspects as possible. Most of the time we need to create the models ourselves and from time to time we need to set and animate our own cameras and do some compositing. I find this diversity very interesting.

Is matte painting something you have learnt during your employment or at school, and what is the most difficult aspect to get right generally?

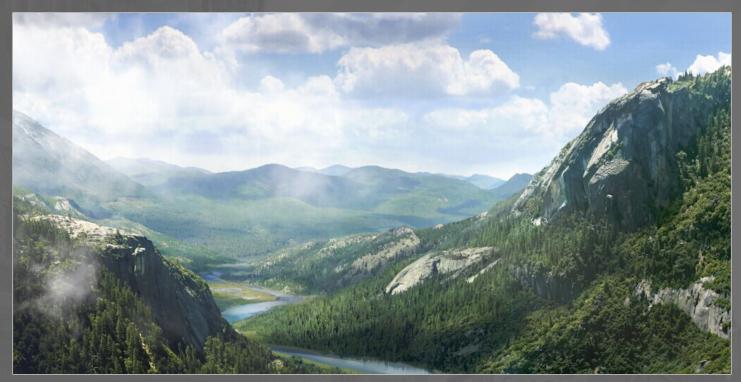
I think that it has been the logical consequence of all my previous experiences. Illustration school taught me proportions; to observe what's around me and to pay attention to detail.





The graphic design company taught me
Photoshop and at Buf I learned all the 3D
technicalities including camera mapping, so
when I had to find a specialty to go abroad, the
choice was obvious for me.

The most difficult aspects vary according to the projects and the shots, but generally speaking, I think what really makes a matte painting work successfully is consistent lighting and accurate perspective. If we work from a plate and manage to catch both of these aspects then the matte painting will naturally fit.



Your reel breakdown outlines your work on various projects, which include a lot of camera mapping. Which of the films proved the most difficult to work on in this respect and why?

On 10,000 BC, for the mammoth hunting sequence, we had to make the ground and the animals' legs interact. To do that, we had to erase the ground on each plate, replace it with dirt, and then add CG grass that was reacting to the movements of the mammoths. The motion covered very long distances and for each shot we had to create lots of cameras in order to avoid stretching (some shots required more than fifty cameras just for the ground, plus another twenty for the surrounding background). For The A-Team, we had to cover a gigantic area of 28,900 hectares and create an environment capable of receiving some 360 camera movement.

"Seeing one's own work in depth and relief through 3D glasses was really enjoyable"

On each movie, all shots with wide motion coupled with a rotation are the trickiest ones and a real hassle as you need to avoid texture stretching.

Tell us a little about your work on *Yogi* and the challenges it posed?

Yogi was the first stereo movie for Rhythm and Hues. We had to adapt our equipment as well as the pipeline. We could no longer "cheat" as we had often done (for example; adding simple planes to complete geometry without modeling it entirely). The fact that we had to render through two cameras (one for each eye) to create depth and relief required that we accurately modeled each object: ground, mountains and trees etc, and then place them accurately in space.

Our department worked primarily on three sequences: the opening sequence, Yogi's flying machine sequence (all the sky, ground and mountain environments) as well as the river pursuit. It was a pleasant experience and everything went really well. Seeing one's own work in depth and relief through 3D glasses was really enjoyable.

Can you talk us through the *Narnia* shot with the collapsing pit and explain the process and techniques you used to produce the sequence?

For this shot, the FX department gave me the geometry making up the inside of the pit and the animated ceiling collapsing in several pieces. The "ground" part of the matte painting covered the meadow and the inside of the pit. So the camera projection encompassed all parts at the



3dcreative Interview MIKAEL GENACHTE







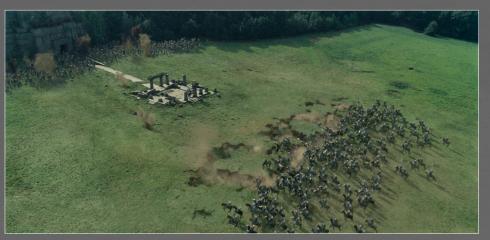








same time and each part that collapsed needed to keep its allocated texture piece. We asked developers to add this feature to their projection software. We had another camera viewing the pit from below, adding dirt to the "underground" sections of these pieces. The trickiest work was actually done by developers.



It appears that you had "carte blanche" over the fireplace scene in *Harry Potter* and the *Goblet of Fire*. What were the most demanding aspects of this shot?

I would say the head integration and interaction with the fireplace. We had animated plates that we had to assemble like a jigsaw puzzle (logs arrangement, flames etc) to achieve the desired design and angle and, as a result, an animated matte painting. From this one, we made a model of the fireplace and projected the texture onto it. We then had to blend in Sirius' CG head: texture, animated embers, particles, flames and interaction with logs. Finally, there was some serious compositing to be done to make everything consistent and realistic.





You have worked across a number of different genres within the film industry, but are there any particular types of projects you favor over others?

All movies on which I can work as freely as possible so that I can contribute on as many aspects as possible: matte painting, projections, modeling and more.

The movie I had the most fun working on was probably *Silent Hill*. Firstly, it's a horror movie so it's fun by nature. I was given two gory shots and was simply told to do something bloody. I really enjoyed using all the available tools to make it as nightmarish as possible, especially the shot with Pyramid Head who twists his victim's skin to pull it off. For the final quartering, I even modeled the heart, stomach and the intestines falling down as two separate parts, but motion blur and blood spatter hide most of it.

All types of projects are interesting in their own way. I really liked working on *The A-Team*.

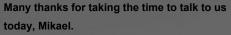


I loved watching the TV series when I was younger and the sequence in the clouds we worked on was really faithful to the spirit of the TV series. We had to cover a very huge area and this type of environment is very pleasant to work on. Finally, comedies like *Night at the Museum 2* also provided a lot of freedom and let us use our imagination.

What do you feel have been the biggest advances in CG during your career so far?

Maybe the fact that CG animals are increasingly realistic and better integrated into their environments (all the latest kids movies involving talking animals are more and more hyper realistic). Also fluid simulations are becoming more and more impressive.

I saw Avatar last year. I like to compare it to Final Fantasy: The Spirits Within (released in 2001) as they both synthesized the latest progress made in 3D computer graphics.



Thanks a lot. It's been a real pleasure to answer your questions

MIKAEL GENACHTE

For more from this artist visit:
http://mikael.genachte.free.fr/
Or contact them at:
mikaelgenachte@gmail.com
Interviewed by: Richard Tilbury





VANCOUVER FILM SCHOOL. vfs.com/animationvfx

Artist | Eric Petey, Animation and Rigging Lead | Rex Fang, Animator | Kristin Sedore, Senior Lighter **Toy Story 3** Daniel Holland, Sets Artist | Tristan Ikuta, Simulation & Effects Artist | Bill Watral, Additional Simulation & Effects Artist **Transformers: Dark of the Moon** Serguei Kalentchouk, Rigging Lead | Jooyong Lee, Roto/Paint Artist **TRON: Legacy** Craig Calvert, CG Supervisor Brenda Li, Roto/Paint Artist | Jose Julian Karam Lopez, Digital Compositor | Christopher Ahrens, Lighting Artist | Alberto Landeros, Digital Compositor **True Grit** Tom Piedmont, Roto/Paint Artist **Uncharted 2: Among Thieves** Mike Yosh, Lead Animator **Up** Bill Watral, Visual Effects Artist **WALL-E** Daniel Holland, Production Artist | Bill Watral, Effects Artist Mark Shirra, Layout Artist **Warhammer 40,000: Dawn of War II** Nathan Hocken, Lead Animator | Ian Cumming, Senior Artist | Claire Roberts, Artist | Christine Hubbard, Artist | Allan Dilks, Artist **Watchmen** Shawn Walsh, Visual Effects Supervisor | Lon Molnar, Visual Effects Supervisor | Sean Lewkiw, Technical Head of 3D | Ty Duperron, Modeler | Pearl Hsu, 3D Artist | Matthias Lowry, Digital Compositor **Zombieland** Mike Rhone, Visual Effects Artist **TO NAME A FEW**



mage Courtesy of Nicolas Garilhe "God ot Writing"

WRITING THE NEXT CHAPTER

www.Pixologic.com

Join our online artist community at

www.ZBrushCentral.com

Pixologic

makers of ZBRUSH



ALIEN CONCEPT

Martin Beyer

http://www.pitchepuck.com/ pitchepuck@t-online.de (right)



BEAST

Aleksandr Kuskov

http://alekscg.daportfolio.com natikks@gmail.com (below)









Viking

Pedro Conti

www.pedroconti.com pedro_conti@hotmail.com





PIRATE

Sam Chester www.SamChester.co.uk info@SamChester.co.uk (right)



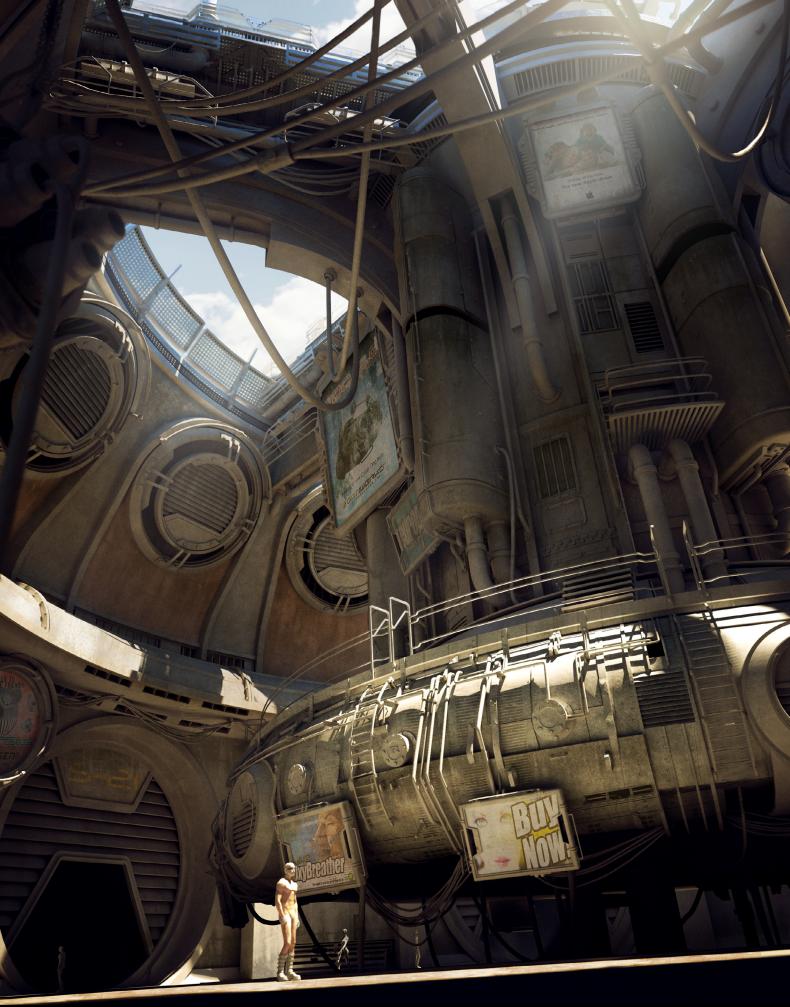
FAN ART DEMON HUNTER - DIABLO III

Andy Brüning

www.andybruning.blogspot.com andersongut@gmail.com Concept by Blizzard (below)







SECTOR 21

Rudolf Herzog http://www.rochr.com rudy@rochr.com



MODELING FEATURES OF THE HUMAN ANATOMY

CHAPTER 6 - SKIN











COMING UP IN THIS ISSUE...

This month our artists will show you how to create skin.

So if you're interested in seeing the final chapter of this great series, please flip to the back of this magazine and enjoy.

6 3DS MAX - PAGE 080

MAYA - PAGE 084

MODO - PAGE 092

Modeling the features of characters is something that has caused problems for many artists over the years. A good model can easily be spoiled by an incorrectly modeled feature, such as a hand or an ear. This eBook offers a step-by-step guide to help you make sure you never struggle with feature modeling again, presenting detailed chapters that have been written specifically for 3ds Max, Maya, Cinema 4D and modo.





3D CHARACTER DESIGN SERIES WITH SCOTT PATTON

In this two volume series, Scott Patton shows the processes he uses to create a 3D character for feature films. The first volume explores Patton's fast and efficient method for concept sculpting, skipping the 2D sketch phase all together and designing the character entirely within ZBrush®. He covers everything from blocking out the forms and fleshing out the muscles, to adding props, detailing with alphas and posing the character. The second volume covers methods for creating a final color rendering using ZBrush and Photoshop®. Patton shows how he squeezes the most from ZBrush's powerful renderer to create both a wide and close-up shot of the character. He then shares creative Photoshop tips and tricks to quickly get to a finished piece of concept art from the ZBrush renders, covering topics such as adding and refining skin texture, hair, eyes, shadows and scars. Patton also discusses how to create backgrounds that enhance the character and overall composition.

All Tutorials Are Now Available
As DVDs, Digital Downloads,
And Part of The Online Training Subscription

www.thegnomonworkshop.com

FUTUR STIL VEHICLES



Futuristic vehicles are a common subject matter in the CG world. However, creating a complicated model that then needs to be textured and lit can be a time-consuming process, which is only necessary if the model is to be animated later in the process. If you are creating a still there is an easier way that will save you a lot of time and still produce equally impressive results. In this series Dhilip Somesh will be showing us how we can create a simple 3D model which can then be textured, painted and lit in Photoshop to create amazing futuristic vehicle illustrations.



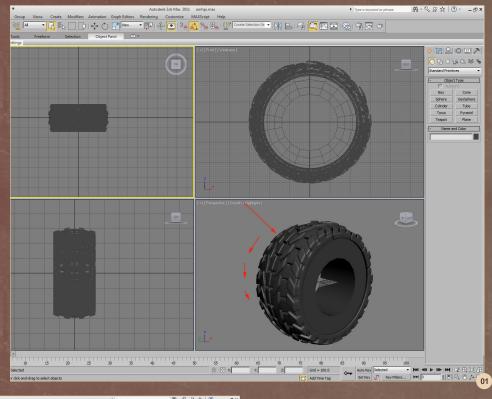
CHAPTER 01 - AMPHIBIOUS VEHICLE

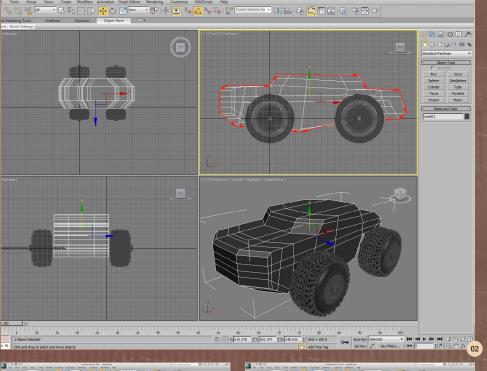
Software used: 3ds Max and Photoshop

I love designing machines and my task for this tutorial was to design an amphibious vehicle. When I was in the designing phase and was thinking about my amphibious armored protected car I decided that I would call it AMP (as it is short for amphibious). This tutorial will not be about modelling, but will be about design and post-production in Photoshop.

I spent around two day (roughly 20 hours) working on this image from beginning to end. I started with a rough concept that I would later create in 3ds Max, but first I wanted to create the tires to help set the base for the creation of the model (**Fig.01 – 02**). Getting the wheels in

www.3dcreativemag.com





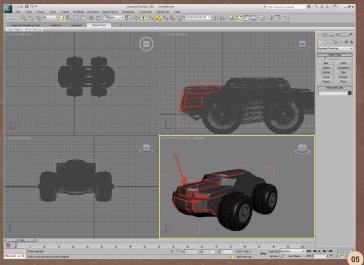
place also helps you when designing the car. If you were to draw a car from the side you would probably put the wheels in fairly early on.

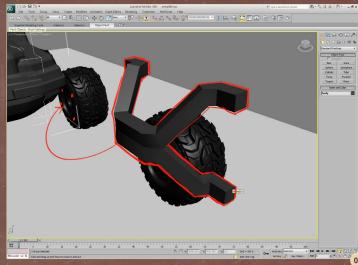
I then went on to create my design in 3ds Max. It is always better to initially design your car whilst looking at it from the side because it is easier to view the form and helps keep things simple. I created the shape of the car using the Line tool and by making extrusions in 3ds Max. I mainly use 3ds Max to nail down the design as it helps me to see the car from as many different angles as possible (Fig.03). I don't worry too much about making the model clean, and I don't have to worry about overlaps either as the model is just a base that will be manipulated later in Photoshop. When creating the body of the vehicle I was thinking of a frog-shaped snout and the shape of a small boat. This seemed to fit pretty well with the idea of an amphibious vehicle.

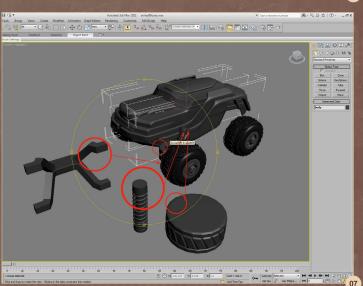
It was necessary to detail the rough shapes that I had previously marked out with the Line tool. I did this with the Edit Poly option and used FFD modifiers to achieve the bulges and curves that you can see in **Fig.04 – 05**.

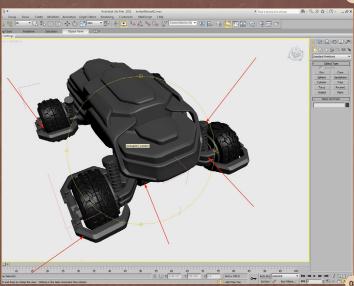
3dcreative

Chapter 01 | Amphibious Vehicle FUTURISTIC VEHICLES









After I had created the base of the vehicle I spent time gathering references of images from vehicle factories so that I could get some ideas about new elements to add to the vehicle. Again, this was done in a certain way so I could watch the development of the overall model in 3D. You can see the additional features and how they were added in Fig.06 – 08.

The final stage of the process in 3ds Max was to set the lighting. I used a very simple overhead light that could represent the sun (Fig.09). This is to make the car look as it would do in its environment. I tried to keep the shadows short and simple. I then rendered the image 3000 pixels wide. This was the end of my first day's work. I thought that the arm attached to the front wheel didn't quite look right so I added some extra plates over the arm to fix the form issues.





This is where I moved the image into Photoshop. I started by simply marking details and demonstrating further the shape of the vehicle (**Fig.10**). I also started to select areas and paint in smaller details like the vents, rivets and light color (**Fig.11**).

After this stage it was time to start to add all the decals, dirt and scratches. It is important to do this well or the image will look very CG-like and won't be believable. Because it is important





to make the image believable I tried to give it an army-like appearance as this is the kind of environment this vehicle would be in. I used a combination of hard brushes and airbrushes with Scattering to achieve the desired look (Fig.12 – 15).



Issue 073 September 2011

3dcreative

Chapter 01 | Amphibious Vehicle FUTURISTIC VEHICLES







The nature of a material is mainly demonstrated through its highlights. This kind of vehicle wouldn't have a polished surface like a sports car and therefore requires less highlights, particularly strong ones. When adding this kind of detail you really need to think about the purpose of what you are painting (**Fig.16**).

I have added decals to show that it's been manufactured by a company for a squad or a team, which adds to the story and believability of the image. Again you need to think about the purpose of your vehicle when adding things like lights. In this case the lights needed to add to the aggressive nature of the image.

I find it helpful when presenting an image to add a silhouette of a man as it makes the scale more perceivable. I will often use subtle colors in the background and foreground as this adds to the sense of depth in the image. You can also use these colors to bring out some of the colors from your image (Fig.17). I also like to

FUTURISTIC VEHICLES Chapter 01 | Amphibious Vehicle



present the image with some alternative angles of the vehicle. This helps people understand the details and shape of the vehicle and helps better demonstrate its purpose (Fig.18).

Fig.19 shows the final image. You will see that I used a few graphic details to really finish everything off. This is to really sell the design of the image.

DHILIP SOMESH

For more from this artist visit: http://nullworld-3033ad.blogspot.

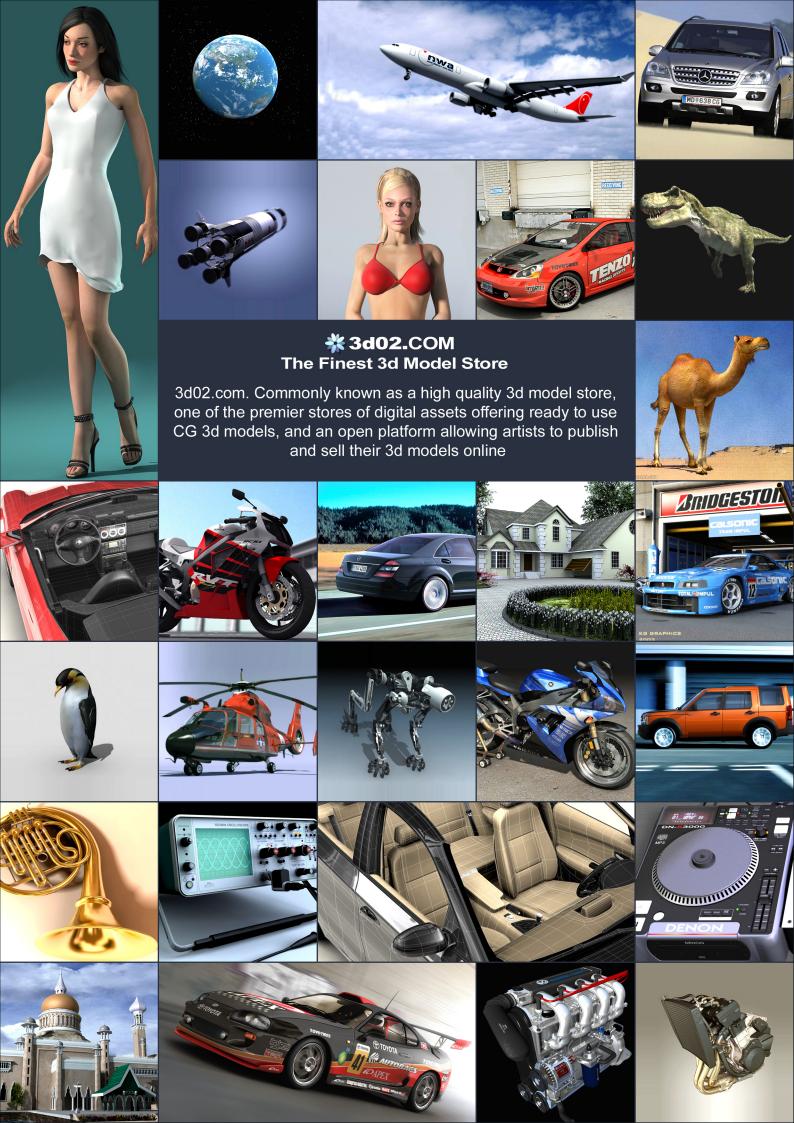
Or contact them at:

dhilipsomesh@gmail.com



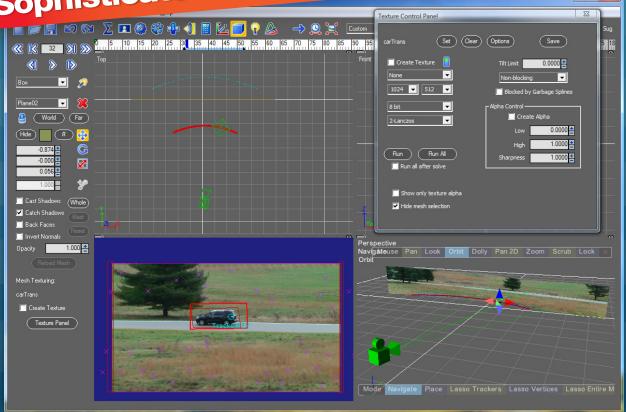








Now with amazing Texture Extraction and Sophisticated new AfterEffects exporter!



See the tutorial at http://www.youtube.com/SynthEyesHQ

Pro 64-bit version only \$599 for Windows and Mac OS X, full-featured entry-level 32-bit version an incredible value at \$399



- Fixing Shaky Shots
- Virtual Set Extensions
- Animated Character Insertion
- Product Placement in Post-Production
- Face & Body Motion Capture
- Talking Animals



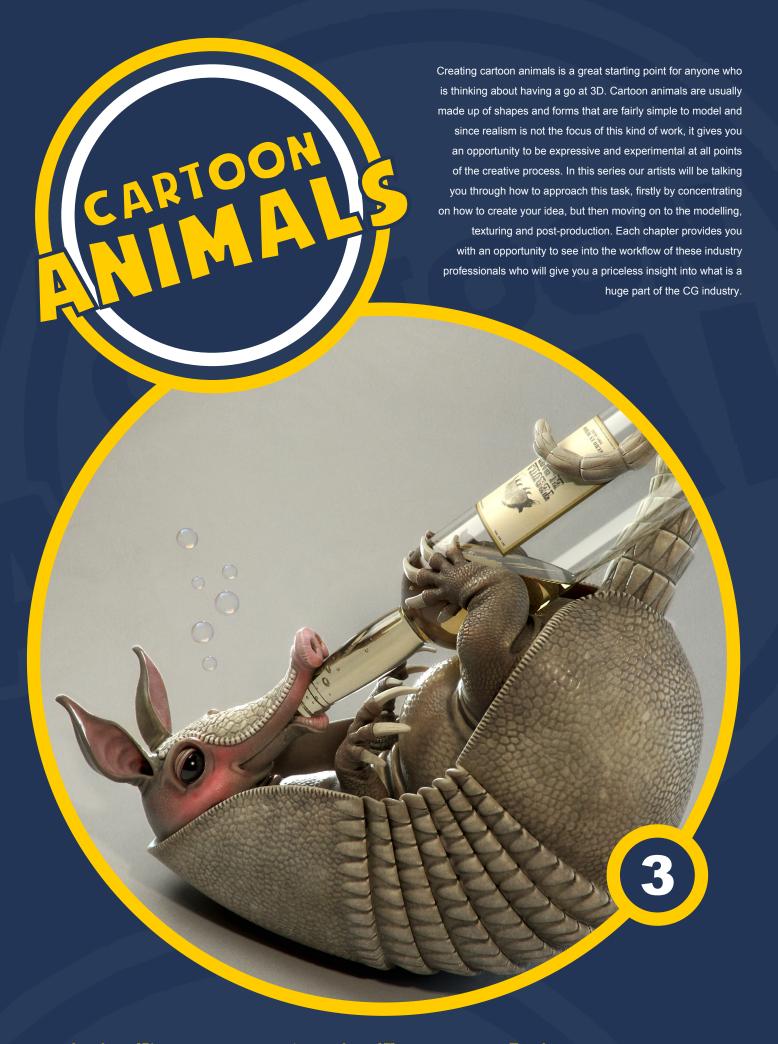
What Our Users Say About SynthEyes 2011

- "I've been faffing about with the texture extraction tool and it's brilliant!"
- "Has to be seen to be believed!"
- "You've got a great product at an incredible price."
- "Texture extraction in Syntheyes 2011 is awesome. It works so well it must be magic."
- "I love the tracker radar! It's useful AND it looks cool."

Andersson Technologies LLC

Seventh year in the market, serving artists in over 70 countries





JULY ISSUE 071 Chapter 01 | Mosquito AUGUST ISSUE 072 Chapter 02 | Emu THIS ISSUE Chapter 03 | Armadillo

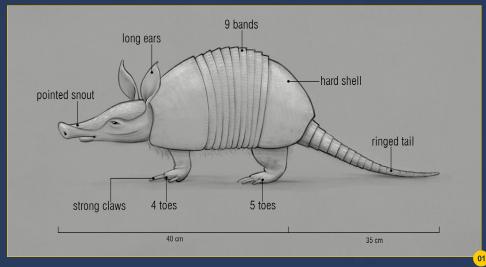
CHAPTER 03: ARMADILLO

Software used: 3ds Max and ZBrush

INTRODUCTION

In this tutorial I will guide you through the process of creating a cartoon animal character. This time the victim is the armadillo!

Apart from being a curious looking animal with a hard shell that gets killed on the roads in Mexico, I didn't know much about armadillos. The first thing to do is to gather references and study the subject. The internet is your best friend on this, so start by searching for armadillo photos from as many points of view as you can. Also search for photos and schematics of the skeleton, as they will provide you with good information on the shape and angle of the limbs, joints, mouth position, number of toes etc. You should also try to read a few webpages about the animal's biology, geographic location and habits.



With the animal photos, skeleton and bio in hand you will be surprised by the amount of new ideas that will come to your mind. Also, you will be able to avoid some simple design mistakes, like putting a pouch on a male kangaroo (which I did on a previous image)!

I have started by sketching the armadillo, trying to include all of its characteristic elements

(**Fig.01**). The nine-banded armadillo variety was my preference and its main characteristics are:

- The long, pointed snout it uses to reach food
- Long ears
- A hard shell made of several bands which allows it to be flexible
- Strong claws that allow it to dig
- Four toes on the front feet
- Five toes on the hind feet
- A long ringed tail.

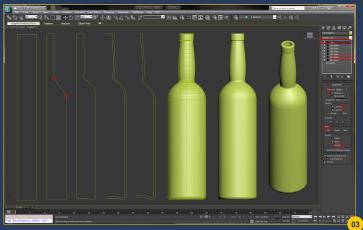
The process of drawing the character will force you to analyze each of its parts and will make you very conscious of each detail before attempting to turn your armadillo into a cartoon.

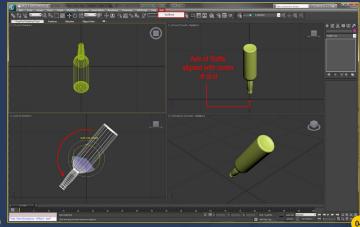


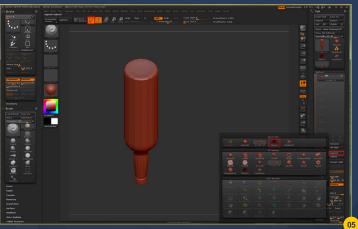
The main purpose of this tutorial is to create a presentation shot of the character, so we should think about how to stylize it, but also how to pose and present it. A character's pose tells us a lot about its personality, so you should avoid using a T-Pose or a neutral pose when the objective is to sell/approve a character.

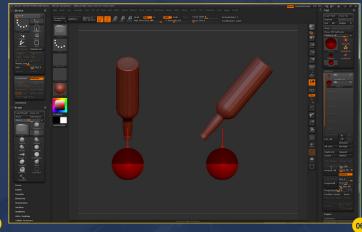
The armadillo is an animal that exists in Texas and Mexico, so I have decided that a shot of tequila or a Corona beer could complement the character well. As the armadillo has quite short limbs, it was funny to imagine how he could drink from a bottle. I sketched the idea (Fig.02) and simplified the forms a bit. Notice how I have











reduced the number of bands on the back and tried to make the snout more geometric. I also gave more importance to the eyes.

MODELING

The character's pose depends a lot on the bottle so we will start by modeling a simple bottle. Then we will pose and build the character around it! We will try to keep the character as symmetrical as possible in the beginning, and break that symmetry at a later stage. Not a very conventional approach, but it will assure you that the relation between the character and the bottle will be perfect in the presentation shot.

Through the tutorial I will assume that you are using ZBrush 4, have installed some free plugins that can be downloaded at Pixologic and have set up GoZ to be connected with 3ds Max.

THE BOTTLE

In 3ds Max, start by creating a rectangle with a height of 0.3m and a width of 0.035m in the

Front viewport (**Fig.03**). Apply an Edit Spline modifier and insert two vertexes to define the shape of the bottle. Keep adding more vertexes and control the Bezier Splines at each vertex to shape the outer surface of the bottle. Delete the vertical line at the center and in Spline Sub-object mode select the remaining Spline and drag the Outline value to 0.003m in order to represent the thickness of the glass. Erase the lines at the top to create the bottle opening. Apply a Lathe modifier, turning on the Weld Core option and setting the align option to Min, so that the revolution axis is at the left margin of the half bottle section.

Move the bottle to make sure that the center of the base is at the 0,0,0 coordinates point. In the left view rotate the bottle 140 degrees counterclockwise to match the sketch (**Fig.04**). Even though we will export this bottle to ZBrush, save this editable version as you will need to tweak it later. With the bottle selected, from the GoZ menu choose GoZBrush.

3D SKETCH

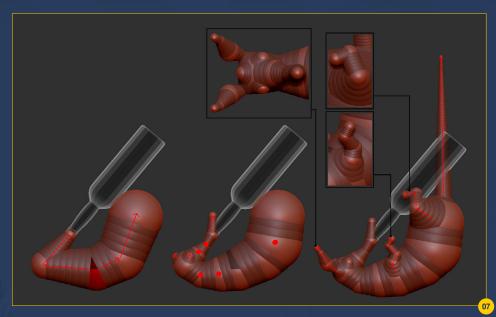
ZBrush will open. For the bottle to show up, drag to the center of the screen and press the Edit button at the top. If you drag on the background while pressing Shift you are able to cycle through the orthographic views. Change to the front view facing the bottom of the bottle (Fig.05). From the Subtool menu choose Append and select the ZSphere. Decrease your brush radius to zero (as it is more practical to edit the ZSpheres) and select the ZSphere subtool. Press X to activate symmetrical editing. Move the ZSphere down to place it under the bottle (Fig.06).

While in Draw mode, if you drag on a ZSphere surface a new connected ZSphere will be created. If you drag at the symmetry line, a single ZSphere will be created, and if you drag on any other point of the ZSphere, two new symmetrical ZSpheres will be created. Use the Move and Scale modes to position the ZSpheres. If you click the chain between the two

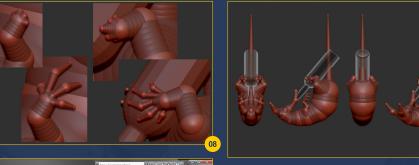
ZSpheres while in Draw mode, a new ZSphere is created at that point.

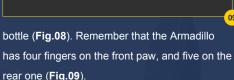
Using the ZSpheres create a form that approximates the character in the concept (Fig.07). Imagine that we are modeling the animal without the shell as that will be taken care of later. Start by growing the neck and snout from the base ZSphere as well as the main body shape. Refine the snout, body and neck by adding some extra ZSpheres. Grow a nose in front of the snout and add some ZSpheres in the place of the eyes and also grow a ZSphere on the top of the head to ensure that some more geometry will be generated there.

Grow the rear legs, positioning them as if they were supporting the bottle. Create the front legs and the ears in a relaxed position. Grow the tail in a vertical position, as we will detail it in this neutral pose before curling it around the bottle. From the extremities of the limbs create the fingers and claws, positioning them around the





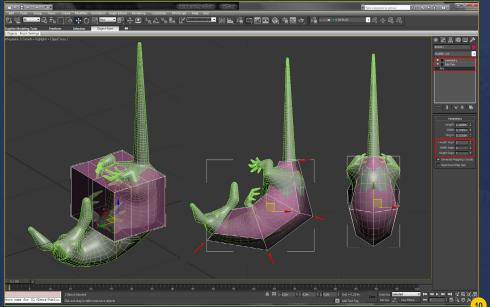


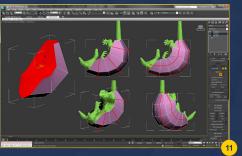


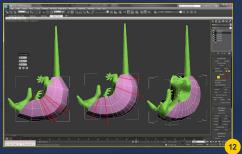
Press A to see the adaptive skin of the ZSpheres and then press the GoZ button in the Tool menu to export the adaptive skin to 3ds Max. We will use it as a reference to model the shell.

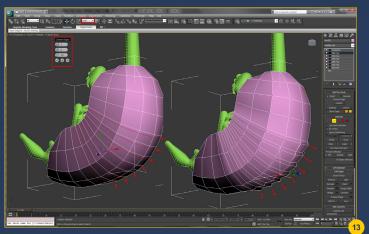
THE SHELL

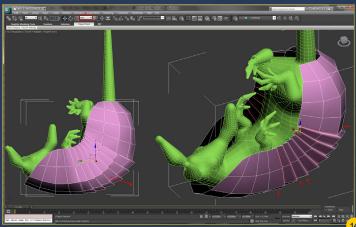
In 3ds Max, start by creating a box in the Top view and make sure that it is located at the 0,0,0 coordinates (Fig.10). The box should be three segments long and two wide. Create a Standard material with 50% opacity and apply it to the box; this allows you to see the model and reference simultaneously. Apply an Edit Poly modifier and a Symmetry modifier on top. Choose the Edit Poly modifier and reposition the vertexes to create a rough shell. Delete the polygons representing the lower part of the shell (Fig.11).





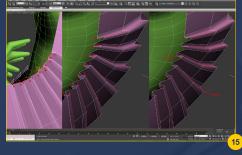




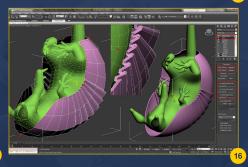


Add new vertical and horizontal edge loops between the existing ones and move the vertexes to make the shell rounder. Create two new edge loops between the polygons on the central part of the shell; each edge corresponds to a band (six bands will be created as in the concept) (Fig.12). Also add edge loops to the front and rear of the shell and move the vertexes round the form.

Create edge loops near the edge of each band (Fig.13). Select the new vertexes at the new edges, change the Reference Coordinate System to Local and move along the Z axis to move all the vertexes outwards at the same time (after this operation you need to adjust the vertexes at the mirror plane by setting the X value to 0).



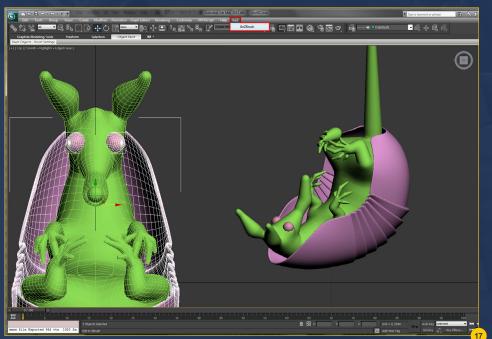
On a side view, select the same vertexes of the newly created edges and, with the Reference Coordinate System set to View, move the vertexes to the side in order to make the transition between bands harder. Create new edge loops at each side of each band (Fig.14). Adjust the vertexes at the edge of the band near the belly to make the ends curvy (Fig.15). Select the edge loop at the interior edge and outer edge of each band and chamfer it slightly



with the Chamfer tool in Edit Poly mode (Edge Sub-Object mode).

Create a tight loop at the edge of the shell (Fig.16). Then apply a Shell modifier to add depth to the shell (about 0.0015m to the inside and outside). In the Shell modifier options enable the Override Inner Mat ID and set it to two; also enable the Override Outer and Edge Mat IDs and set them to one. This will allow us to easily separate the interior of the shell in ZBrush as it will accept the material IDs as polygroups while importing. We also want to use the Turbo Smooth modifier with two iterations to subdivide the surface. The result of subdividing a surface in ZBrush or 3ds Max produces different results, so I have opted to divide it in 3ds Max first. Set the name of the shell to "shell".

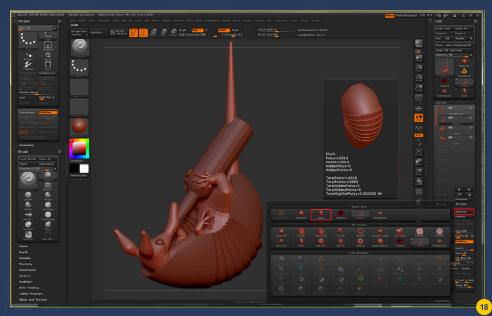
Create a sphere, place it near the location of the eye and use a Symmetry modifier to create the other eye mirroring the first one. Name this object "eyes" (Fig.17). Select the eyes and the shell and choose GoZBrush from the GoZ menu.

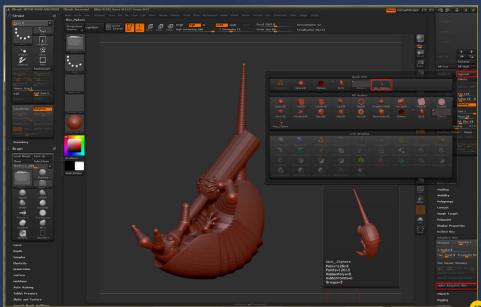


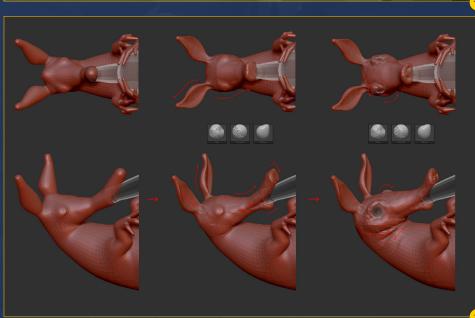
REFINING THE BODY

In ZBrush a new tool will be created containing the eyes and the shell as subtools. Select the shell subtool. Change to the tool with the armadillo body, click on Append and pick the shell from the object list. Go back to the imported tool and this time select the eyes subtool. Change to the tool with the armadillo body and append the eyes. You should now have a tool that contains the body, bottle, eyes and shell (Fig.18).

In order to generate an adaptive skin from the ZSpheres to be sculpted, select the ZSpheres tool. In the Tool menu, under Adaptive Skin,





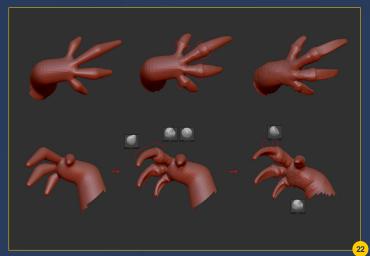


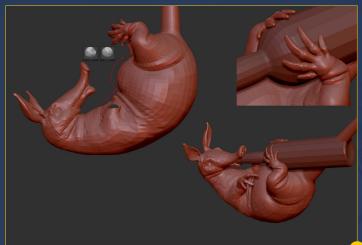


select Make Adaptive Skin. A new tool with the prefix "Skin_" will be created. Choose Append and pick the "Skin_" tool. We will be sculpting this subtool. You can hide or delete the ZSpheres subtool as we won't be using it again (Fig.19).

To block the form we will mainly be using the Clay brush. Select the Clay brush and under AutoMasking enable BackfaceMask so that when we are working on one side of a thin surface it doesn't affect the other side (**Fig.20**). Turn on Symmetry (press X) and subdivide the body once (under Tools > Geometry).

The bottle influences the pose of the armadillo, so it is advisable to keep it visible during some parts of the sculpting. Using the Clay and the Smooth brushes make the snout curvy and flatten the tip (Fig.21). Carve the interior of the ears and also subtract from the outside to make the ears thinner. Carve the line of the mouth and add volume at the lower lip, as if the lip is



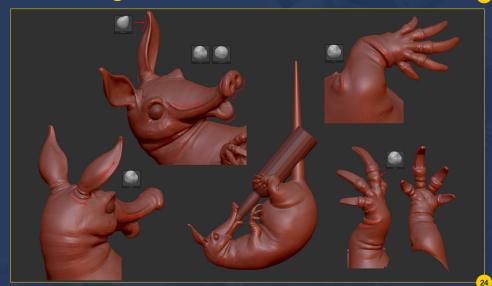


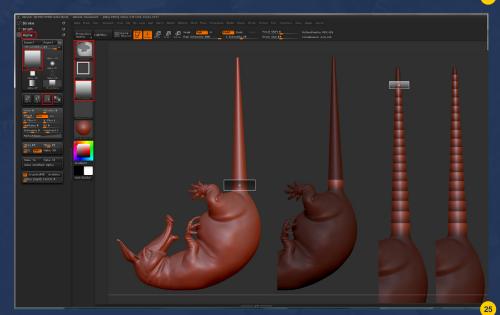
surrounding the tip of the bottle. You can also adjust the volumes using the Move brush. With the eyes visible, carve the eye socket and add volume to the eyebrows. Bulge the cheeks and sculpt some wrinkles at the neck. Also don't forget to add the nostrils.

Still using the Clay and Smooth brushes, add some volume to the fingers of the front paw, marking the transition between the finger and the claw (Fig.22). Carve the bottom part of the claw to make it flatter. Use the Move brush to pull up the central part of the claw and make it curve. To add sharp transitions to the claws use the mPolish brush on the top, sides and bottom. With the Clay brush add some folds under the fingers and at the wrist.

Repeat the procedure for the rear paws. Make a nice and round belly using the Clay brush. Also add folds at the places where the skin is compressed. At this stage we have blocked the main form. We will now start detailing (Fig.23).

Subdivide the geometry once more and keep refining the details (**Fig.24**). Try to put the maximum detail that each subdivision allows and only subdivide it when the mesh does not have enough resolution to support more detail. At this subdivision level, using the Clay and Move brushes, I have added some more skin folds, knuckles on the fingers and a clearer shape to the snout and lips. I have also marked the limit of the shell that covers the head.





Subdivide the body once more. In order to create the tail rings, hold Ctrl and change the mask selection mode to Rect (Fig.25).

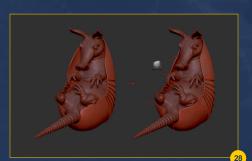
Still holding Ctrl, click on the brush alpha and

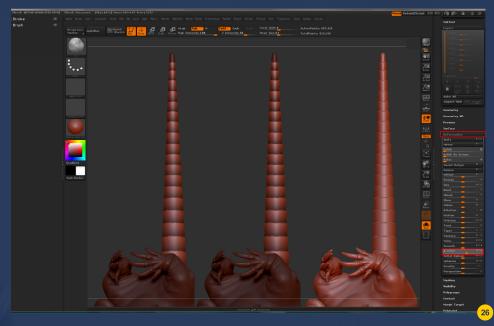
select the "Alpha 27" from the list (rectangular gradient). Holding Ctrl go to the Alpha menu and press Rotate to rotate the gradient 90 degrees clockwise.

Now, when you create a mask, you will create a rectangular gradient. Make sure you are on a side view. Mask the base of the tail and invert the mask selection (Press Crtl and click on the background). Press Ctrl + Alt to subtract to the mask and mask all the rings of the tail. From the Tool menu, under Deformation, increase the Inflat slider to 8 and then the rings will be created. You can then discard the mask (Fig.26).

Subdivide the body twice more (you should have a total of six subdivision levels). Smooth the tail rings, add a bit of volume to the edge and use the Pinch brush to sharpen the ring's edges (Fig.27). Start sharpening all the details using the mPolish and Pinch brushes. Notice how I have refined the head shell by using the Pinch brush at the borders.

Select the shell subtool and make sure that Symmetry is on (press X). Use the Move brush with a large radius to move the shell in order to



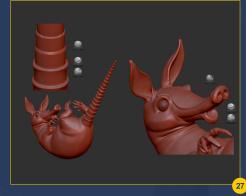


avoid intersections with the rear legs (**Fig.28**). Also use the Move brush to move the borders of the shell in order to achieve a tighter fit with the body. Subdivide the shell four times. Save your armadillo tool.

CUSTOM BRUSH

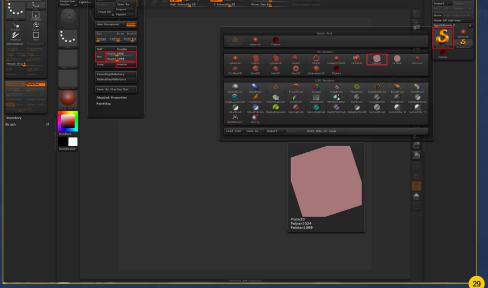
In order to create the scales on the armadillo shell, we will create a custom brush (Fig.29).

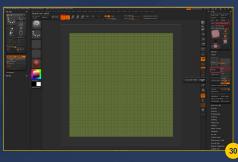
Start a new ZBrush document. In the Document Menu, set the Width and Height to 1000 (do not forget to disable Pro, so that the scaling is not proportional) and choose Resize. The document is now 1000 x 1000 pixels.

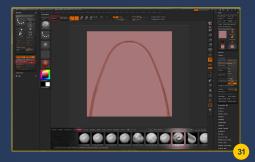


From the Tool menu choose the Plane3D tool (Fig.30). Drag on the center of the screen to create the plane, change to Edit mode and then press Make PolyMesh3D from the Tool menu. In Tool, under Geometry, disable the Smt button, so that the plane corners don't get rounded when you subdivide it. Press Divide twice so that you have three subdivision levels.

Load the Dam Standard brush (from the Lightbox, choose the Brush directory and you will find it there – double click to load) (**Fig.31**). In the Stroke menu raise the LazyRadius value



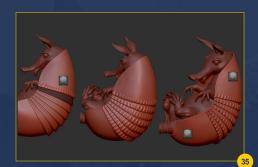


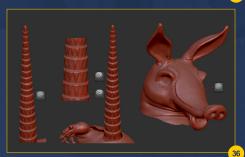


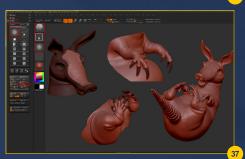
to 65. Make sure that the brush size is around 45 (press S to set the brush size). Facing the plane from the front create an arch that resembles one of the armadillo's scales.

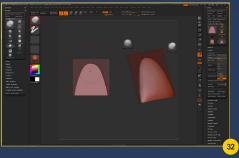
Change to a Standard brush and mask the area outside the line (**Fig.32**). Choose the FormSoft brush and with a big radius stroke the unmasked area to create a raised scale. With the Smooth brush you can rectify any stretching at the borders.

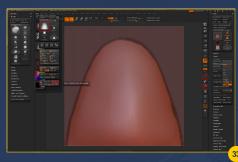
Set the view to Front and press F to frame the view (Fig.33). Scale in a bit so that the borders of the planes are a bit outside the frame of

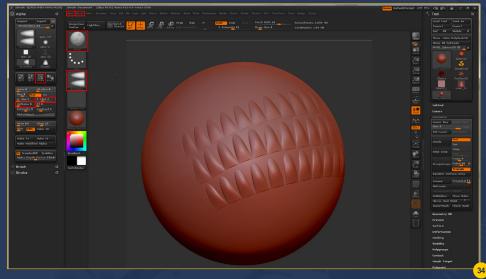












the document. From the Alpha menu choose GrabDoc and ZBrush will create an alpha based on the viewport depth.

We will create our brush based on the Stitch1 brush, so choose that brush. Press on the BrushAlpha square and choose the alpha we have created (named "ZGrab"). In the Alpha menu, rotate the alpha to be horizontal, set V Tiles to two and Mid-Value to one (you might need to adjust this value so that a rectangular marking doesn't show around the brush; try different values until you find the correct one). In the Brush menu save the brush and name it "ArmadilloScale" so that you can use it later. Feel free to test the brush and adjust the values to your preferences (**Fig.34**).

DETAILS

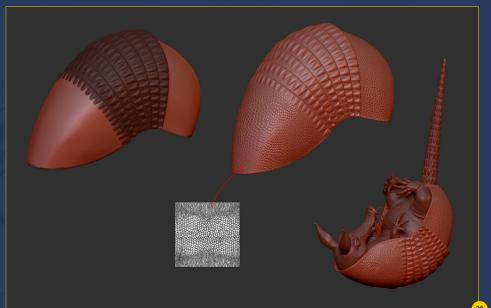
Open the Armadillo tool in ZBrush, and load the ArmadilloScale brush that you have just created. Make sure that the VTiles value of the alpha is two (this value resets each time you enter ZBrush). Select the Shell subtool and create the scales at each band (Fig.35). In order for the

strokes to affect only one band at a time, mask the bands that you don't want to affect. Reduce the brush size and create a stroke of small scales at the border of the shell.

Select the body subtool and, using the ArmadilloScale brush, create scales on each tail ring (Fig.36). Then use the Dam Standard brush to make the division between the scales. I have also made some little arches between the scales with the Dam Standard brush to simulate a stylized scale pattern. Use the ArmadilloScale brush to create scales at the contour of the head shell. Not very realistic but quite stylish!

choose the Standard brush. In the Download
Center of the Pixologic website (http://www.
pixologic.com/zbrush/downloadcenter/alpha/)
go to the Skins section and download the Lizard
Scales02 alpha by Marcus Civis. Choose this
as your brush alpha. In the Alpha menu set the
Radial fade of the alpha to 15. Set the drawing
mode to DragRect (Fig.37). Mask everything
except the head shell and drag to add texture to

To create a brush for the shell and leathery skin,



the shell. Add the same texture at a tiny scale to the rear and front legs while masking the nails. Then, with a reduced intensity and a tiny scale, add a bit of this texture to the whole body.

Choose the shell subtool and change the alpha to Lizard Scales07, which you can also download at the Pixologic website. Mask the scales of the bands and drag on the shell to create the texture (Fig.38).

Choose the body subtool. With the Clay brush, create the cartilage of the ears (Fig.39). With the Dam Standard brush create some cuts around the nostrils and at the lips. With the Clay

brush fill between the cuts to make the flesh bulge a bit. Also add some cuts along the nails to represent the nails' structure.

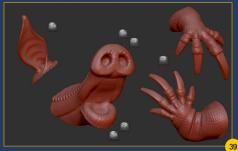
UVS

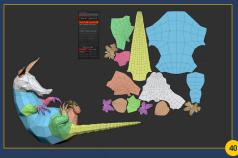
Let's set the UVs with the UV Master plugin.

Launch the UV Master from the Zplugin menu.

Select Work on Clone. Divide the model into polygroups as in Fig.40, separating the hands, feet, arms, legs, tail, body, head and ears. Make sure the Symmetry and Polygroups buttons are enabled in UVMaster. Choose Unwrap. You can check the layout of the UVs by pressing Flatten (press Unflatten to leave). Choose Copy UVs.

From the Tools menu select the armadillo body





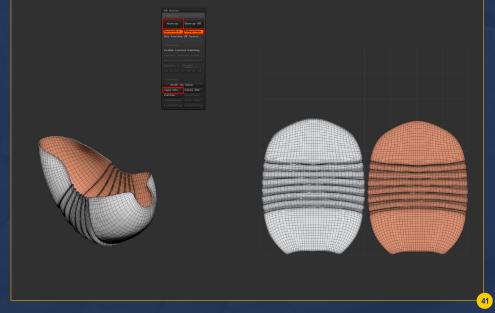
subtool and press Paste UVs to transfer the UVs to the original model.

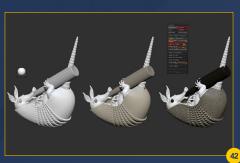
Select the Shell subtool and launch the UV Master plugin. If you remember, the polygroups of the shell are already separated into inner and outer shell. Make sure the Symmetry and Polygroups options are on. Choose Unwrap. Once again copy the UVs and paste them on the original shell (Fig.41).

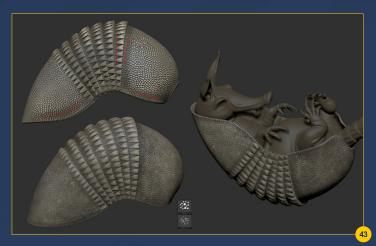
POLYPAINT

To start the painting process, choose the SkinShade4 material. It is a great material for polypainting because it is white while keeping some specularity, not interfering with the perception of the painted colors (Fig.42).

Select the Shell subtool and fill it with a beige color. In the Masking sub-menu (under the Tool menu) select the Mask by Cavity option and then press Inverse. Select a dark brown color and fill with this color (choose Fill Color in







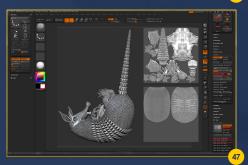


the Color menu). Clear the mask. All the little cavities are now dark. This way we will keep all those details in the texture.

As the cavities are too dark we can now paint on top of them with a reduced RGB intensity which will allow for the detail to be kept (**Fig.43**). Choose a dark color and mark the interior edges of the bands. Also mark the outer edges of the shell. Change the painting mode to Spray and choose Alpha07 as the alpha. Paint with varied tones of gray all over the shell to add some variety to reduce the impact of the cavities.

Select the body subtool. Fill the body with a medium brown and paint the tail, nails and head shell with the same beige color as the outer shell (Fig.44). Mask the cavities and invert the





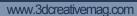
mask as we did before. Fill with a dark color to reveal the cavities. Once again, using a variety of grays with a Spray brush paint the tail, nails and head shell. Also use some desaturated browns to paint the body and reduce the cavities' visual impact.

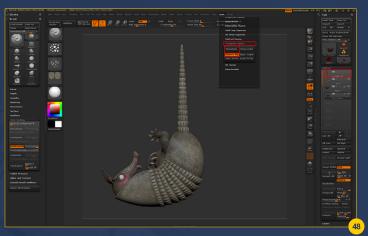
Choose varied tones of pink and paint the interior of the ears, nose, lips and around the eyes. As this armadillo loves tequila so much, I have decided to paint the cheeks with a deep red and spread a little bit of redness all over the face (Fig.45).

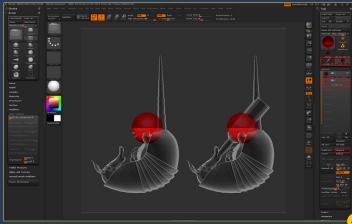
The painting is over so we will transfer the polypaint to a texture. In the Tool menu, under UV Map, set the size to 4096. In the Texture Map sub-menu press New from Polypaint to generate the map. Press Clone Txtr. In the

Texture menu (at the top of the screen), choose Export and save the texture as "armadillo_body. PSD". Choose the Shell and generate the texture the same way and save it as "armadillo_shell.PSD". You can see the resulting textures in Fig.46.

Just before proceeding to posing the tail, we will export two textures that we will need for the material creation: the cavity maps for the shell and body (Fig.47). To do this, make sure that your selected color is white, go to the Masking menu and choose Mask by Cavity. Then, under the Texture Map sub-menu pick New from Masking and ZBrush will generate a texture with the masking. Press Clone Txtr, go to the Texture menu and export. Save the maps as "armadillo_shell_cavity.PSD" and "armadillo_body_cavity.PSD".







POSING THE TAIL

In order to pose the tail we will use the Transpose Master plugin. However, to keep the bottle as a reference and unaffected by the ZSpheres rig, a few weird steps will have to be taken.

Make sure the body, eyes and shell subtools are visible and that the bottle is invisible. In the Transpose Master menu (at the Plugin menu) enable ZSphere Rig and press TposeMesh (Fig.48).

A new tool with the "Tpose#1_" prefix will be created with a ZSphere and a transparent version of your model at the lowest subdivision level (Fig.49). Select the original armadillo tool and select the bottle subtool. Select the "Tpose#1_" tool, choose Append and select the bottle. As the bottle is in a different subtool it will not be affected by the ZSphere rig.

Position the ZSphere at the bottom of the armadillo and grow a chain of ZSpheres at the

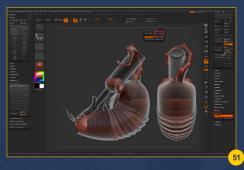
tail (Fig.50). Also create some ZSpheres with the rough volume of the rear legs and some to represent the rough volume of the body. These ZSpheres will keep the body and legs in place while we pose the tail.

In the Tool menu, under Rigging, press Bind Mesh. Move the ZSpheres of the tail to position them around the bottle (**Fig.51**). When you are satisfied with the position, select the bottle subtool and delete it. Go to Transpose Master and choose Tpose > SubT. The position of the tail and body will be transferred to the original model.

EXPORT

In order to export the model to 3ds Max, we will first optimize its polygon count with the Decimation Master (Fig.52). Before proceeding, save your tool or you'll lose it later. Select the Shell subtool and in the Decimation Master menu (under Plugin menu) enable Keep UVs. Press Pre-process Current and wait for the process to finish. Slide the % slide bar to about

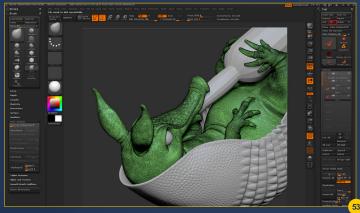


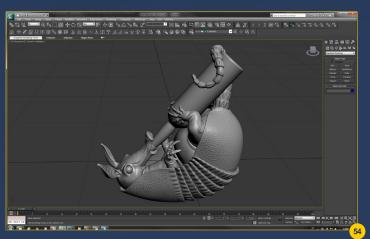


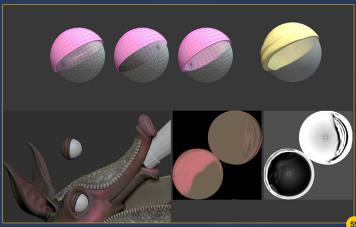
6% and choose Decimate Current. The shell subtool has been converted to triangles with a much lower polycount. Select the body subtool and repeat the process.

Everything is set for exporting, so press the All button near the GoZ button. This will export all the subtools to 3ds Max (**Fig.53**).









3ds Max will open with the armadillo model (Fig.54). You can then delete the bottle and merge the original bottle you created at the beginning of the tutorial. If you've followed all of the steps correctly then the merged bottle should fall into exactly the same place as the exported one.

EYE LID

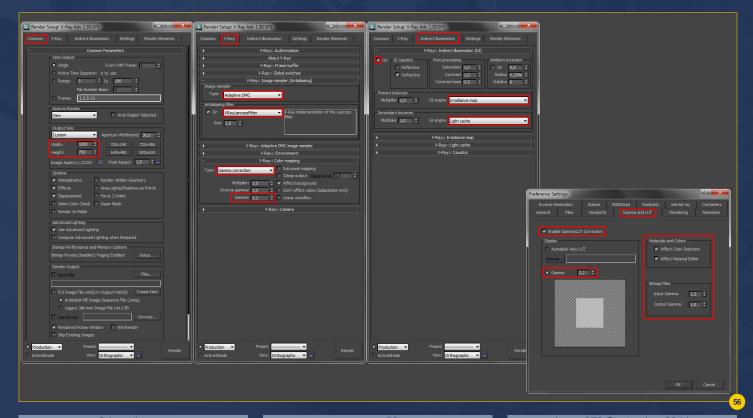
At this time I have noticed that the character could be improved with an eye lid. To create the eye lid start by creating a sphere with the hemisphere setting set to 0.5 and adjust its position to the eye ball (**Fig.55**). Then delete the lower faces of the hemisphere and apply a

Shell modifier to give it some thickness. Press the GoZ button and subdivide and sculpt it in ZBrush with some horizontal wrinkles and a thicker edge. Use polypaint to match its color to the remaining model and generate the UVs with the UVMaster. Then export the polypaint as a texture named "armadillo_eyelid.PSD". You can also generate and export a cavity map with the name "armadillo_eyelid_cavity.PSD". Press GoZ and you will be back in 3ds Max with a new sculpted eye lid.

V-RAY

Choose V-Ray as the render engine. Set the output size to 1000 x 750. Set Adaptive DMC as

the image sampler and the VrayLanczosFilter as the Antialiasing filter. Under Color Mapping change the type to Gamma Correction and set the Gamma value to 2.2. Turn on the GI, under Indirect Illumination and set Irradiance map for the primary bounces and Light Cache for the secondary brushes. As we will be working with gamma correction, in 3ds Max's Preference Settings, under Gamma and LUT, enable Gamma/LUT Correction. Make sure the gamma is 2.2 and enable Affect color selectors and Affect Material Editor. Set the Bitmap files input gamma to 2.2 and the output gamma to 1.0 (Fig.56).

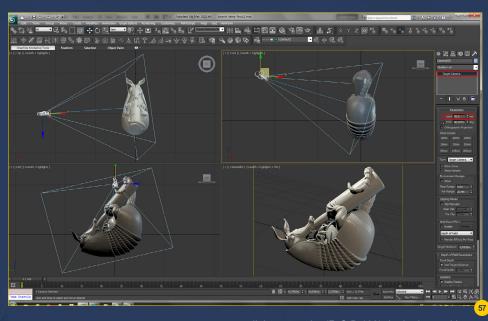


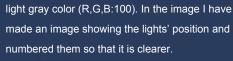
CAMERA

I have created a "Target Camera" and placed it in order to see the armadillo from the side so that his action is clear to the viewer. You can check the position of the camera in the image (Fig.57). I have set the camera lens to 40mm and tilted it to the left. Do not forget to turn on the Safe frame in the camera viewport.

LIGHT

I have opted for a lighting situation similar to a studio setup (Fig.58). I have created a background plane with a curve that extends to the floor plane, as in a studio "ciclorama". The material of the plane is a simple VrayMtl with a



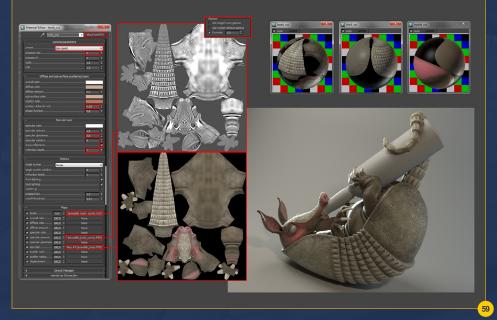


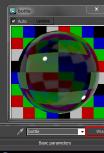
Light 1 is the main or key light. It is a spotlight with shadows set to VrayShadow. The intensity is 1.66 and the color is a light orange (RGB:255,211,153). The decay type is set to Inverse Square with starting at 0.52m. Under VrayShadows I have enabled Area shadow with a sphere size of 0.05m.

Light 2 is a warm fill light. It is a Vraylight plane with an intensity of 5 and color temperature set to 5070. Half-length is 0.23m and half-width is 0.29m.

Light 3 is a cool fill light. It is a Vraylight plane with an intensity of 2 and color temperature set to 8300. Half-length is 0.28m and half-width is 0.28m.

Light 4 is a rim light. It is a spotlight with shadows set to VrayShadow. The intensity is 4 and the color a light blue (RGB:195,244,253). Decay type is set to Inverse Square with Start at 0.33m. In this light I have also placed the "ciclorama" in the Exclude list in order to have a strong rim light on the character without burning the floor.













MATERIALS

The material base for the body, shell and eye lid is the same. Create a VrayFastSSS2 material with the "Skin(pink)" preset (**Fig.59**). Change the prepass rate to 0. Reduce the scatter radius value to 0.25. Set specular glossiness to 0.6, enable trace reflections and reduce the

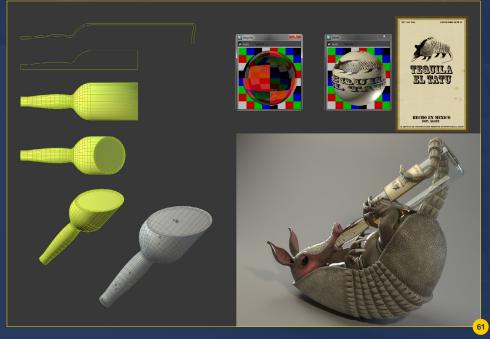
reflection depth to 1. In the Maps section, place the "armadillo_body_cavity.PSD" in the specular amount slot, but be careful to set the gamma to override 1.0 when you open it, otherwise the values will be affected by the gamma correction. Also place this map in the bump slot with a value of 5.0. Place the "armadillo_body.PSD" in

the sss color slot (you might need to adjust the colors a bit in Photoshop; in my case I had to increase the image's brightness).

Apply the material to the body. Copy the material to create the new materials for the shell and eye lid, replacing the bump, specular amount and sss color maps with the ones for each body part.

For the eyes I have opted for a very simple solution: a black reflective material (Fig.60). It is a VrayMtl material, with the diffuse color set to black. Set the Reflect color to white and enable Fresnel reflections. Unlock the Highlight glossiness value by pressing the L button and set the value to 0.85. Apply this to the eyes.

The bottle material also started with a VrayMtl material. Set the diffuse color to black. Set the Reflect and Refract colors to white. Enable Fresnel reflections and set Reflection glossiness to 0.9. Increase the Max depth of the Reflection and Refraction to 8 as there are a lot of inter-



reflections in the bottle. Enable Affect shadows and change the fog color to a very light green (RGB:212,231,210). Apply this to the bottle.

Remember that I asked you to merge the original bottle into this scene? Make a copy of the bottle and edit the Spline of the bottle shape, leaving the interior shape to create the volume of the liquid (Fig.61). Lathe again and use a Push modifier to expand the liquid volume just a bit, so that it intersects the walls of the bottle — this will make the refraction work properly. With a slice plane, cut the liquid horizontally and delete the top polygons. Use Cap to close the hole. Then apply an inset to the capping polygons and push the polygons down so that there is a bit of a curve where the liquid meets

the bottle walls. Then add a few spheres, with the normals inverted, inside the liquid to create some air bubbles.

For the tequila material, just copy the material we have created for the bottle and change the fog color to RGB:255,208,127. Apply it to the liquid and air bubbles.

To finalize, I have created the bottle label. The material is a simple VrayMtl with the diffuse texture of the label and a Reflection glossiness of 0.65 with Fresnel on.

CONCLUSION

I have rendered the final image at 4000 x 3000 pixels. In Photoshop I have made some minor

color corrections and added some little bubbles to add to the idea that the armadillo is drunk (Fig.62).

I hope you have enjoyed the tutorial. If you wish to download the ArmadilloScale brush created during this tutorial, please visit my website:

www.artofjose.com and you can find it in the Goodies section. See you next time!

JOSE ALVES DA SILVA

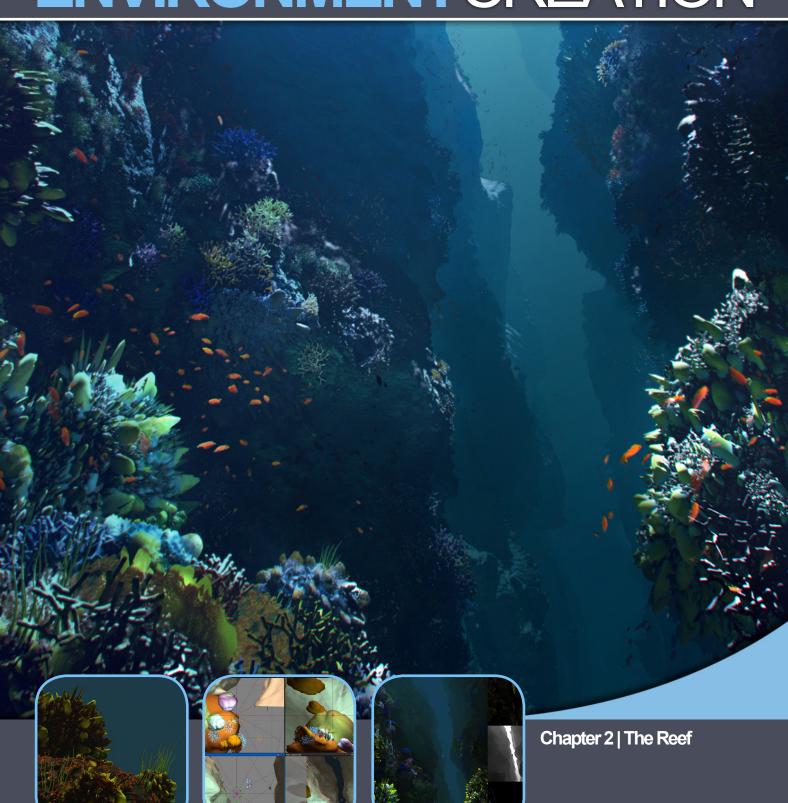
For more from this artist please visit:
www.artofjose.com
Or contact them at:
joalvessilva@netcabo.pt







VUE ENVIRONMENT CREATION



Vue is a fantastic piece of software that is being used more and more in the movie industry to create beautiful, realistic environments. It can meet the needs of almost any artist in any situation and, as with most CG packages, the

only limitation is your imagination. In this series Alex Popescu will be exploring how to get the best out of this versatile software, talking us through all the options on offer and looking at the ways in which Vue can be used to create

stunning environments and back-drops. If you are interested in Vue as a piece of software, or if you are thinking of having a go at creating CG environments, then this tutorial is the one for you!

VUE ENVIRONMENT CREATION Chapter 2: The Reef

CHAPTER 2 - THE REEF

Software used: Vue

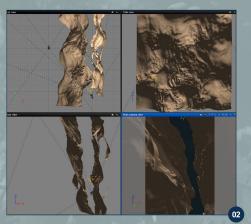
INTRODUCTION

For the second part of the Vue environment tutorial series I have chosen a beautiful and interesting subject matter: a coral reef. I think everybody can enjoy a nice underwater scene, and Vue is great at allowing you to create wonderful results in a small amount of time. The quality of the resulting image depends on creative choices rather than the technical side of things. That is why there will be a couple of steps where I will take some decisions that might seem strange but are actually just ways of simplifying the workflow and getting faster results.

After doing a bit of research online looking at underwater photography, the ideas will start to flow and an image will start to form in your head. For my image I will try to combine two things: a deep underwater canyon or cave, which conveys a sense of mystery and scale, and a beautiful coral reef, with its amazing colors and shapes.

THE TERRAIN

Once I have a clear idea of what I want to build I can get to work. The first natural step would be to start building the terrain so I can set up the camera and choose a composition I like. Given the fact that I want to create an underwater canyon and have a good sense of scale and depth, I am going to need a terrain that has a





lot of big shapes which will create my depth, but also a lot of tiny details. This means we will most probably use a procedural terrain that combines two types of fractals, one for our big shapes and another one for creating the details.

The usual approach for creating the terrain would be to build the canyon from the beginning. But because I want a lot of detail and shape on my canyon wall, a standard approach in Vue would make this a difficult task. I want to be as efficient as possible, so I choose to do it in a different way. I will create a regular procedural terrain then I will build my canyon walls by rotating it 90 degrees. I can even duplicate the same terrain a few times, because the perspective I will be using will allow me to do this without the viewer noticing the repetition.

Let's start creating the actual terrain. As I said I am using a combination of two fractals: a terrain fractal and a basic repeater. The basic repeater is creating my big shapes and I am using a multiplier filter to exaggerate those, while the terrain fractal will give me all the tiny details and shapes I want for the close-up. The two are combined using a blender node. Note that the Zero Edges option is turned off (**Fig.01**).

When I am happy with the general shape of the terrain I need to make sure to go to the object's scale and set the values to match a real world

scale. This will save a lot of trouble later when setting up the atmosphere and vegetation.

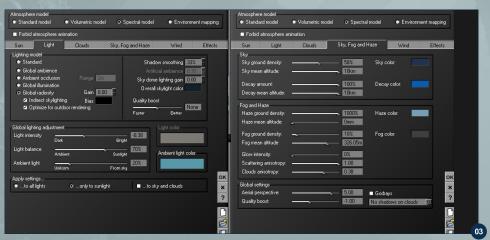
CREATING THE LAYOUT

First of all I need to choose a format for my image. Because I want to create a canyon it seems wise to choose portrait format as it I will give enough vertical space to show the depth of my environment. Given the fact that the image is being created for a magazine I choose a standard paper vertical format. The camera is a pretty wide one (24 mm) so I can fit a lot of elements in the foreground, while creating a strong perspective as the canyon fades into the distance. For both sides of the canyon I use the same terrain and just rotate it 180 degrees so there isn't any repetitions After playing a bit with the camera position, this is what I decide on (Fig.02).

Setting up the Lighting and Atmosphere

This is probably the most important part of creating a good environment. If the lighting setup doesn't work then your whole environment will not be believable. That is why I suggest taking a bit of time to study the reference images you have gathered, and trying to replicate a lighting setup that you like. Maybe it's obvious but for an underwater setup (in most cases) you need to start with a top light

Chapter 2: The Reef VUE ENVIRONMENT CREATION



so I move the sun to a position that will create some nice shapes on my cliff walls, illuminating everything from the very top. Of course to make it interesting it's not exactly on top of my cliffs but in a position that will mean the right wall will mostly be in shadow, and that there will be more highlights on the left wall.

Now we reach a point where I make an interesting decision. I am creating an underwater scene, but do I actually need the water? In this case the answer is no. This would only increase our render time and we won't really feel the difference because of the depth we are at. If it was a shallow water scene

caustics would create a nice lighting effect, but there is no need for something like that in our case. This is a decision you can make based on studying reference photos and deciding what works best in your case. So instead of water I will just set up my atmosphere so the scene looks deep under the sea. Here are my atmosphere settings (**Fig.03**).

THE FIRST RENDER

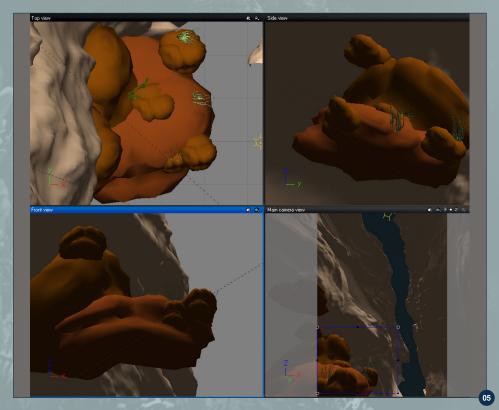
It's then time to start testing the scene. In the light setup I do a lot of fast test renders to get the look I am after. When setting up the atmosphere the render preview window is a great help because it refreshes every time you



click on it, even when you are still playing with the sliders. To get a better idea of the overall look I would not recommend rendering with the default material. It can behave strangely in the light setup and once you switch on your final materials the light setup won't work anymore. Always use a simple material that is close to what you need in the end. That will give you a better idea of how it will behave in your rendered scene. In this case I just choose "Orange rock" from the default rock materials. Here is the result of my render (**Fig.04**).

BUILDING THE FOREGROUND

At this point I am getting anxious to start work on the coral reef. I know it is going to be a bit of a challenge and that the image depends on it, so I go forward with it. The plan I have is to create the coral structures from Vue rocks with interesting displacement materials. The good thing about an environment like this one is that you will get away with a lot of cheats, because the regular viewer is probably not an expert diver. So rather than creating an exact realistic type of coral, what you need to do is convey the idea of a coral reef as this is enough to make it believable. So I start by setting up the rocks to get a nice layout. I use different sizes and rotate them around until I am happy with what I can see through the camera (Fig.05).

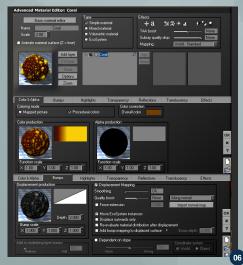


Then I start working on the coral material. The first attempt is very straight forward. I choose one of the Vue preset rocks as a base (the sick rock). Then by changing the color and activating the displacement with a high enough value I get very interesting results. This is the beauty of Vue; you can get great results in a very short amount of time (**Fig.06**).

To see how things are looking I need to look at it again through the camera. I am not trying to create a realistic type of coral because I don't really have to. An object that gives the right idea will do the trick. So at this point my corals might look weird, but keeping the whole environment in mind I am pretty confident that it's going to work (Fig.07).

IMPROVING THE REEF

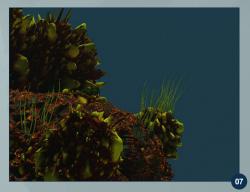
I am happy with the base of the reef, but it id going to need a lot more work to get it to the point I want it at. First I start to add vegetation. In the Vue presets you can actually find pieces of coral. They look exactly as you would expect coral to look and they will help me sell the environment. They look nice placed around and with a few changes to the color I am getting nice results (Fig.08).





The look of my coral material is still a bit off. I feel the light interaction is not good enough. I'm not getting the organic feel I want. But it's easy to change that in Vue. Just activate the subsurface scattering (**Fig.09**).

I am probably going to need a bit more light to take advantage of the new translucent



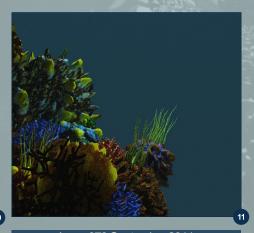


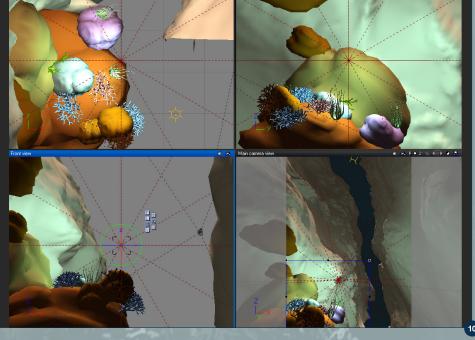
material. That is why I add another light source, a point light set up to give me exactly that: some specific light on the foreground coral reef (Fig.10).

The light coming from the point light is set up to attenuate very fast, so it doesn't affect my overall top light setup. Here is a render of my coral reef after all these changes (**Fig.11**).

ADDING THE ECOSYSTEM

Now that I have the foreground corals sorted I need to start to think about the mid-ground. I use a few Vue default plants and I start adding them on the canyon walls. For the coral I am changing the color from time to time to make







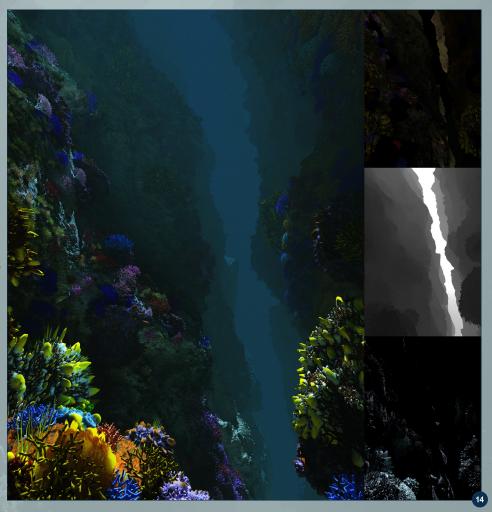


the image look more varied. In this type of environment you should vary the color as much as possible, to create a natural look and feel. If some colors are going to be too out of place they can easily be taken out in Photoshop (Fig.12 – 13).

BALANCING THE IMAGE

At this point I feel my elements are pretty much there, I just need to balance everything. I add coral structures on the right wall and a couple of extra lights to make them pop out a bit more. I also feel the rock texture is a bit too light and clean, so I change that material for something a bit darker looking.





RENDERING THE IMAGE

Now I am ready to start the final render. Again I cannot stress enough the importance of rendering extra passes that can be used in the post-processing of the render. The Z-Depth pass, the direct light pass, the shadow pass and masks for the separate objects are always useful. Up to now the render settings have been low so I don't waste the time on test renders. Now it's time to boost the render settings a bit to get the best results. Here is my final Vue render. It produces interesting results but it still needs some love (Fig.14).

THE PHOTOSHOP PROCESS

As I said in the first tutorial, the final Vue render shouldn't be considered the end of the work.

There are a few more steps to be taken until the image can be called finished. In this example, the whole scene is created around the illusion

of being underwater. That is why the most important extra pass that I've rendered is the depth pass. With this one I will be able to control the depth in the image and tweak it to a point where I am happy.

USING THE Z-DEPTH PASS

The first thing I am going to do after getting the render in Photoshop is use the Z-Depth pass to get the look I am looking for in the water. In our render as we move further into the distance the water is getting darker. I want to create an image with a bit more of a tropical look, where the water gets lighter in the distance. But there is no need to do that in the render; I want to keep my lighting as it was. So what I do is use a color corrected depth pass as a mask for a solid color with the value I want for the distant water. Here is the result of that on top of the render (Fig.15).

VUE ENVIRONMENT CREATION Chapter 2: The Reef

COLOR CORRECTIONS

Using the object and ecosystems masks I rendered, I play a bit more with the colors in my image. The most obvious change is in the mid-ground where I have changed the colors of some of the corals to make them a bit more obvious. I really like the way the yellow corals in the foreground look. I should have made more of those (Fig.16).

ENHANCING THE LIGHTING

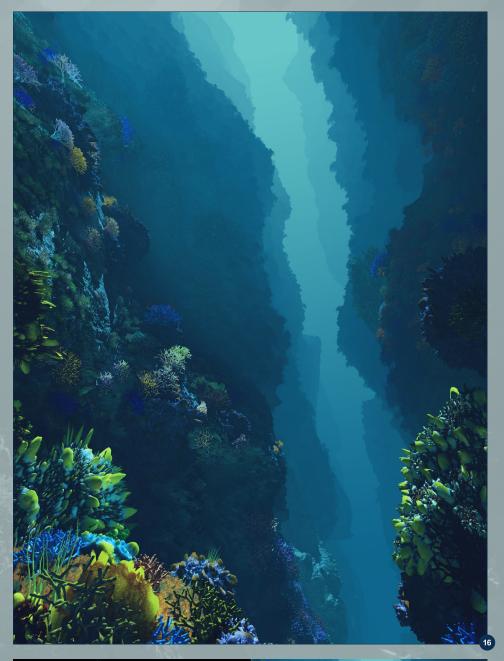
The image is looking good, but the top light I created at the beginning doesn't look powerful enough. Because we have it as a separate pass we can enhance it. Fig.17 shows the direct light pass and the image after it is applied in screen mode on top of our current image. This already feels very good.

THE FINISHING TOUCHES

The last things that needs to be done is to exaggerate the way the light behaves in our environment and add a bit of life to it. To make the lighting a bit more interesting I use a gradient from top to bottom, where I overexpose the top and darken the bottom. I also add a few schools of fish around the corals and a diver in the distance. I make sure that the size of the fish and the diver work well with the size I want the environment to look.

As always the last tweaks are adding a bit of lens blur because in underwater photography the result is rarely extremely sharp. I also add a bit of photographic grain and chromatic aberration. The result is a beautiful underwater illustration, with enough interesting elements to make it eye-catching for the viewer (**Fig.18**).

Thank you very much for reading this month's article and I hope you found it an interesting and visually entertaining read. For any questions about the tutorial or suggestions for the next one drop me an email.







The Most Powerful Population Plugin

Now Available for Maya, Cinema4D and 3ds Max

Works with mental ray and V-Ray for 3ds Max and Maya Works with the native renderer and renderers compatible with Cinema4D instances*

















MAY GIFT Making Of

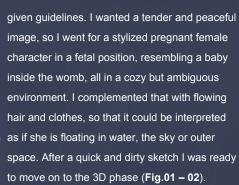
May Gift

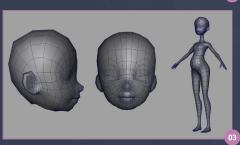
Software used: Mudbox, Maya, mental ray & Photoshop

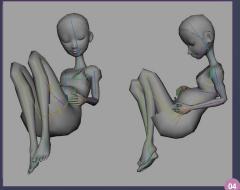
CONCEPT

This image was created as a cover for a friend's magazine. The only guidelines I received from them was the phrase "Mother's Day" and the fact that it was the magazine's first anniversary; aside from that, they gave me complete creative freedom for the final image. Since it was a variety magazine and has a diverse range of readers, I wanted to create something that was appealing to men and women of different ages. I used birth as the main theme, which suited the







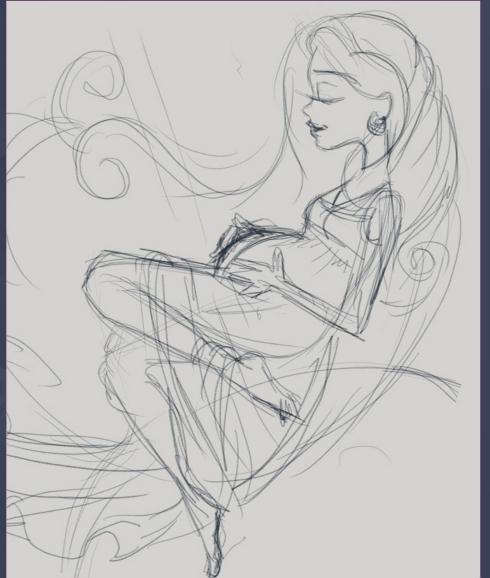


MODELING & SCULPTING

I modeled a basic cartoony head in Maya and due to some time constraints I had to reuse a body base mesh from an old unfinished project (Fig.03). I did a very basic unwrap of the base mesh using the UV tools in Maya. Mudbox has

awesome and very intuitive posing tools, but for this particular project, I felt more comfortable posing the character inside Maya, so I created a basic skeleton and did some quick skinning. I didn't care that much about joint weighting at this point because most of that was going to be fixed when sculpting so I exported the posed OBJ along with some clothes extracted from the body to Mudbox (Fig.04).

The first thing to do inside Mudbox was to define the topological axis to be able to sculpt with symmetry. From the beginning I knew I wanted a soft clay-sculpture look in the final image so almost all the sculpting was done using the Wax tool, while smoothing it constantly to clean rough areas. I started sculpting the mesh with







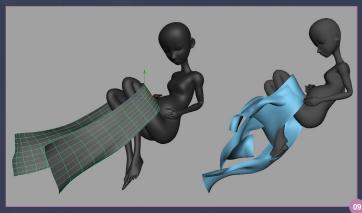


two subdivisions, which was enough to define proportions and the basic face details. For areas like ears, nostrils and nails I had to subdivide the mesh up to level five to get nice smooth details, since I needed the final output render resolution pretty high and wanted to prevent any visible faceting on the final render (Fig.05 – 06).

The clothes and folds were sculpted using the standard Sculpt brush, using two different settings in the falloff with the steady stroke turned on (Fig.07 – 08). The additional pieces of the dress on the character's legs were created in Maya, mixing a couple of solutions. First I used nCloth simulation. I created a wide plane

with enough divisions to get some nice folds and I used a copy of the posed character to work as a collider (Fig.09). Of course the result after a few simulations wasn't going to be exactly what I wanted in the final composition, so I picked a couple of "frames" of the deformed plane and did the final tweaking and extra folds inside



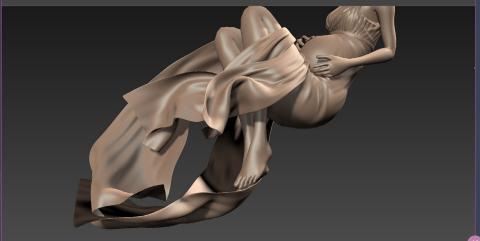


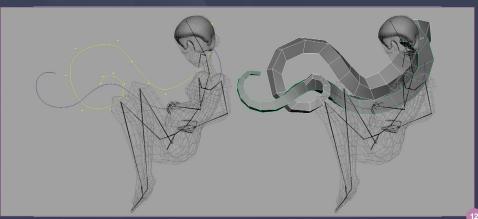
Mudbox, using the Grab brush and the same brush I used for the rest of the clothing (Fig.10).

At this point I had blocked the final camera angle inside Maya, so it was easier for me to work with the shape of the cloth and to get a nice flow and composition with the rest of the objects in Mudbox. It was the same process for the hair, which I created in Maya by drawing some guide curves. This is very basic but











again, I was trying to integrate them with good aesthetics into the scene. I extruded some cubes along the curves to get a solid base mesh to sculpt in Mudbox. The tool I used to sculpt the hair was a thin Wax brush with Steady Stroke turned on (Fig.11 – 13).

TEXTURING

Texturing the model was pretty simple and it was done in Mudbox. I started baking an occlusion map for each object. For the body I used the map to get some color variation in the skin then I painted the eyebrows, lips and

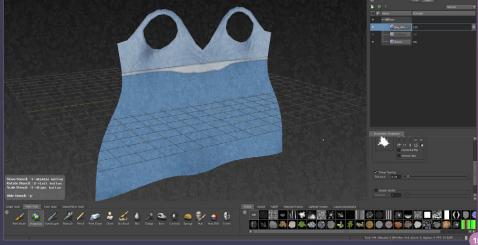
eyelids (**Fig.14**). As for the cloth I used a tiled texture with a subtle floral pattern, previously flattening the object to UV space which is a real time-saver when painting with tiled textures (**Fig.15**). I did some tests using a painted hair texture, but the result was a bit noisy for my taste. It didn't look bad, but it was taking too much attention away from the main character and her belly, which was the main focus point. So in the end I went for a flat color. As for colors I chose a pink and blue palette; not only does it resemble the girl and boy colors we are all used to, but also the purple tones I obtained with both colors were great for the quiet atmosphere I was looking for (**Fig.16**).



I had to decimate the amount of polygons to render inside Maya. It wasn't that much and since the final sculpture didn't have fine details all the main shapes and details were retained. The main focus of the whole image was the







girl's belly, so the first light I used was a Spot light pointing from the upper left corner. I gave it a big radius and penumbra to get soft raytraced shadows and a nice falloff respectively (**Fig.17**). I complemented the light setup with a few more lights, one front Area light with a low value to get all the main volumes of the character

and another one as back light to enhance the silhouette (**Fig.18**). The last light was a Point light right over the belly to get more light bounce to the face, which wasn't enough with my indirect light settings. It also simulates the light emanating from the belly (**Fig.19**). All lights used a quadratic decay and raytraced shadows





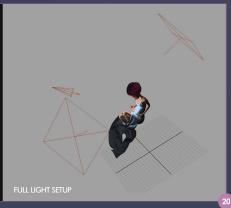


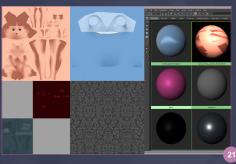








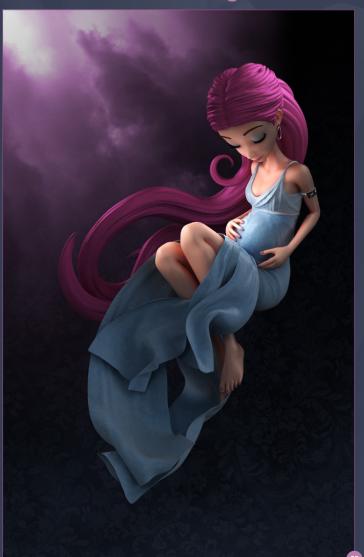


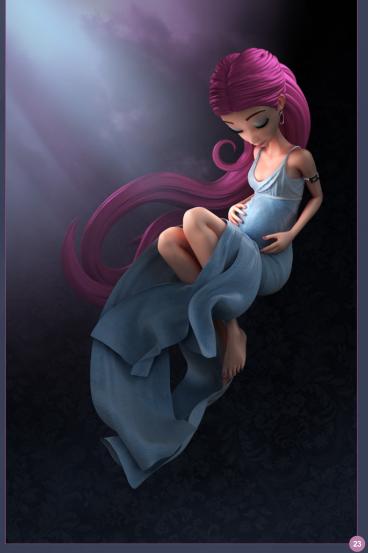


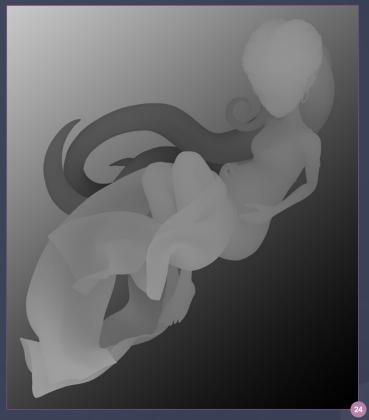
(**Fig.20**). For the skin I used the misss_fast_skin material. I had to create some extra control maps for the scattering layers as well as for the specularity and reflection. The clothes use an anisotropic material and the rest of the materials were all created using a Blinn shader (**Fig.21**). I rendered the final image at 4000 x 6400 px using mental ray with Final Gather.

POST-PRODUCTION

The environment was created in Photoshop. I started with some colorized clouds and used the same pattern on the clothes as the pattern in the background. I added the main lighting from above by painting it in with white and using a bit if blur over the strokes (Fig.22 – 23). I rendered a depth pass to create a very subtle









lens blur, nothing too extreme but it made a big difference when appreciated at full resolution. As final touches I added some sparks, dust, bubbles and some fog textures to complete the ambiguous environment I was looking for. All the 2D elements used the depth pass as a mask for better integration with the 3D render (Fig.24 – 25). Finally I did some little adjustments to the saturation and color (Fig.26).

CONCLUSION

Even with the tight deadline, this was a fun and relaxing project. I worked on it for two nights, and although I cut some corners here and there, I never sacrifice important things like the nature of the character, light and composition.

Thanks again to 3DTotal for the support and for giving me a small space to share my process with you, thanks for reading!

CARLOS ORTEGA

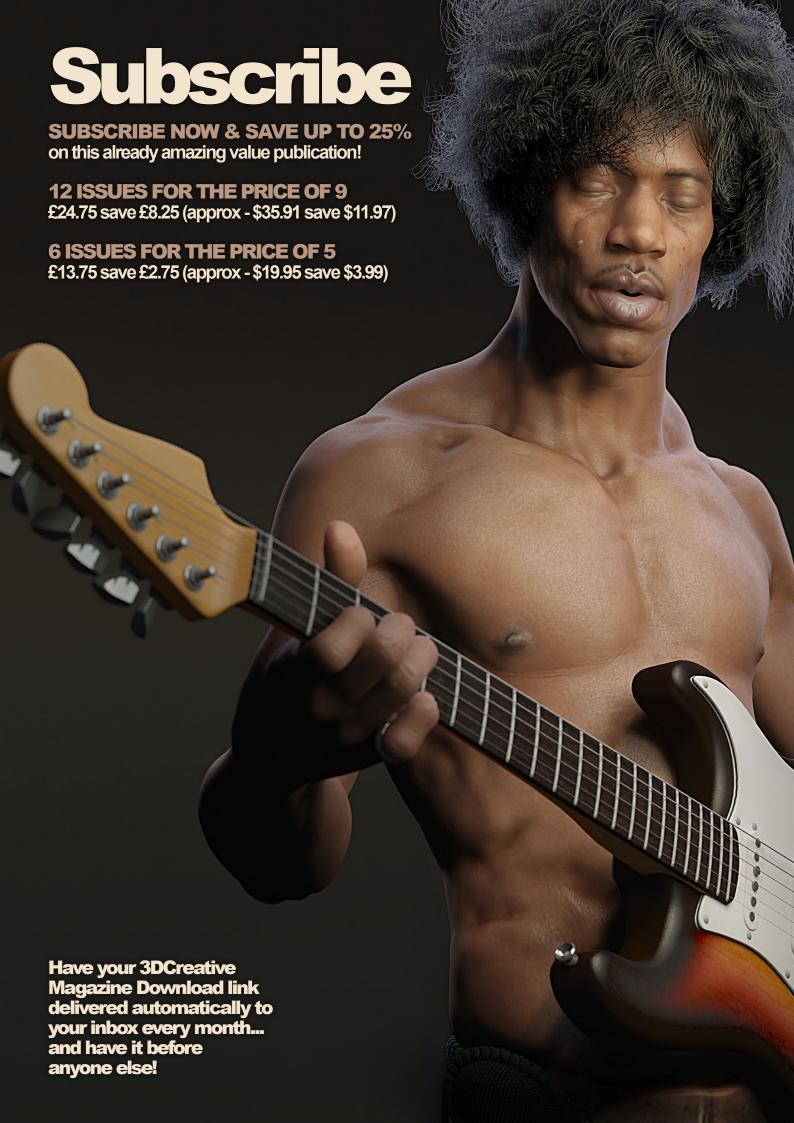
For more from this artist visit:

http://www.zigrafus.com.mx/

Or contact them at:

strogg_tank@hotmail.com





3DC next months issue of 3dcreative

Tutorials

Swordmaster 2

3dsmax &Maya Chapter 1 by Gavin Goulden

Futuristic Vehicles

Chapter 2 - Futuristic F1 Car by Dhilip Somesh

Cartoon Animals

Chapter 4 - Scorpion by Ali Chenari

Vue Environment Creation

Chapter 3 by Alex Popescu

Interviews

Victor Hugo

Galleries

another **10 of the best** Images from around the world!

Making of's

Gutarist

by Park Gun Phil

DAM v5 Making of Barbershop Bear

by Miguel Alba gutierrez

visit www.3dcreativemag.com for full information and to purchase current and previous issues for only £2.75 each!

Image by Park Gun Phil



DIGITAL ART MASTERS VOLUME 5

DIGITAL ART MASTERS
: VOLUME 5 DIGITAL ART MASTERS NOLUME

With the release of 3DTotal's book,

Digital Art Masters: Volume 5, we have
some exclusive chapters for you...

This is more than just an artwork book.

Not only does it feature full-color, full-page images, but each artist has given a detailed description, in their own words, of the creation process behind each piece of published artwork. And they've done it especially for this book!

This month we feature:

"THE TWO MIGHTY KINGS"

BY JACK ZHANG





THE TWO MIGHTY KINGS

BY JACK ZHANG
JOB TITLE: Character Artist - Electric
SOFTWARE USED: XSI, Photoshop



I started by creating a quick concept sketch, based on these ideas (Fig.61). This was probably the most important part of the creation process because this roughly-put-together image became a strong guide that led me towards the success of the final image. I could already feel the energy from the concept at this point.











THE POSE WAS CAMERA-BASED AND SO MIGHT NOT HAVE LOOKED AS GOOD FROM OTHER ANGLES, BUT THROUGH THE CAMERA THAT I'D SET UP, IT LOOKED GREAT 33 66

MODELING

SCI-FI

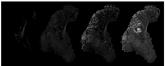
started with the modeling, working on Kong by creating a low-res gorilla (Fig.02). Once done, I rigged and weighted him to get the pose that I desired (Fig.03 – 04). The lose was camera-based and so might not have looked as good from other angles, but brough the camera that I'd set up, it looked great.

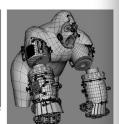


Once the pose was done I started to work on the geant, pipes and metal pairs (Fig. 26). Slowly and carefully, I put them ones the neutral-posed Knog (Fig. 96) and parented the geometry to the selection (Fig. 97). If the reloced how they posed with the pose through the camera (Fig. 98). If the piece didn't look good or create an interesting silinuculta, I simply repositioned in a neutral pose to achieve a letter result. Another good thing about creating gear prices instead of one big chunk of geometry is that I was able to result them as many lines as a I wanted. By rotating them I got many different variations and saved a lot of time.

Again to save time, I only worked on the visible areas apparent through the camera. The back of Kong was "naked." This is definitely not the best approach to use if you want to achieve a full character suitable for a turntable but for a single still, this met proved easy and efficient (Fig.90).









As for the monkey king, I spent a lot less time on him since he was relatively small compared to Kong and was only going to be a supporting character. As soon as I got a good silhouette for the character, I stopped.

LIGHTING
The lighting also kicked in at an odd stage. Usually I deal with the diffuse map before lighting, but in this case I took a different approach in terms of the texturing.

two spotlights to create a rim light on either side of Kong to pronounce his silhouette. I used one dimmer light in front of Kong to simulate the ambient light and thar's pretty much my lighting setup. I honestly don't even know if they make sense, but they looked fine on the character

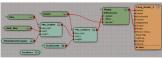
THERE'S NO TEXTURE!
CAN YOU IMAGINE UV
MAPPING AND TEXTURING
A CHARACTER THAT
HAS OVER A HUNDRED
SEPARATE PIECES?

I also put in a few point lights with some small falloff nea Kong's mouth and eyes to simulate the glow; just to add a bit more interest to the character (Fig.10).

TEXTORING
There's no texture! Can you imagine UV mapping and texturing a character that has over a hundred separate pieces? That would take ages to complete and therefor that approach was definitely a non-0. So here's an alternative method which proved handy: shaders.

I created three complex shaders in XSI, each of which simulated a certain metal effect (Fig.11). The shaders were also light based and reacted best from the camerangle. Each of them took an average of nine hours to render with a near five year old workstation.

I also used two other common shaders: Lambert and Ambient Occlusion (Fig.12). I used Lambert twice, one with the three spot lights and one with all the lights. By putting the six different layers together in Photoshop, I









COMPOSITING

Compositing book up a huge part of this project. I wouldn't bette fre first images as fifty 3.0, but rather a mixture of 30 and 20.1 painted the filame and glow, color corrected from any street of the properties of the street of the properties (Fig. 13.1). The environment itself was fully composed in 10.2 its ratelly hard to describe in a work only log about the compositing stages in a step by step process, but I hope the VIPI images will convey a reasonable picture of how I approached and arrived at the final result (Fig. 14 – 15).

CONCLUSION

The Tive Kighty Kings is by far my best finished illustration from my encount work. The reaction process was both for an art frustrating, but I feel it was worthwhite. The work has received many revents and recognition in various forum and books, which is severone. However I've been king and feeding on the glory of this old work and it is time to move and challenge myself again. I will definishly do more than my best for the next one and sharker will will be compared to the most one and sharker will wright out the contract of the most one and sharker will wright out the contract of the most one and sharker will wright out the contract of the most one and sharker will wright out the contract of the most one and sharker will wright out the contract of the most one and sharker will wright out the contract of the most one and sharker will wright out the contract of the most one and sharker will wright out the contract of the most one and sharker will wright out the contract of the most one and sharker will wright out the contract of the most one and sharker will wright out the contract of the most one and sharker will wright out the contract of the con

ARTIST TORTIGER









FI 247





3DTOTAL BOOKS SAVE UP TO 20%

FOR BUNDLE BUYS

2 BOOKS - 10%

3 BOOKS- 15%

4+ BOOKS - 20%

DIGITAL ART MASTERS



"Digital Art Masters in its 5th edition is now what can be easily considered one of the best showcases of digital artworks available today. The quality of the artworks, the fine printing and the valuable walkthroughs make this book a must-have for any art lover and for any CG artist, professional or beginner."

Alessandro Baldasseroni | www.eklettica.com

Meet some of the finest digital 2D and 3D artists working in the industry today – Andrée Wallin, Andrew Hickinbottom, Viktor Fretyán, Kekai Kotaki, Jason Seiler, Ignacio Bazán Lazcano, Chase Stone, Neil Maccormack, Rebeca Puebla, Marek Denko. Become inspired by breathtaking images, paired with the techniques and tricks of leading industry artists

- More than just a gallery book, learn from the best digital artists in the world; each artist offers insight into how their image was created, with discussions of techniques and problem solving solutions
- A source of inspiration for artists of all levels: cutting edge imagery showcases the best in today's digital art
- Featuring more than 50 artists and showcasing over 900 stunning color images in five sections: Sci-Fi,
 Scene, Fantasy, Character and Cartoon

VOLUME 2

The second book in the Digital Art Masters series features 58 of the finest 2D and 3D artists, including Benita Winckler, Glen Angus, James Busby, Jonathan Simard, Jonny Duddle, Philip Straub & Tae Young Choi

VOLUME 3

The third book in the
Digital Art Masters
series features 60 of
the finest 2D and 3D
artists, including Damien
Canderlé, James Paick,
John Wu, Laurent
Pierlot, Marc Brunet,
Mathieu Aerni, Matt
Dixon & Neil Blevins

VOLUME 4

The forth book in the
Digital Art Masters
series features 50 of the
finest 2D and 3D artists,
including Loïc e338
Zimmermann, James
Paick, Craig Sellars,
Jelmer Boskma, Maciej
Kuciara, Daarken, Kekai
Kotaki & Marek Denko





3DTotal presents the new issue of 2DARTISTmagazine: a downloadable monthly magazine for concept art, digital & matte painting for only £2.75 (approx \$3.78 - €2.93)







MODELING FEATURES OF THE HUMAN ANATOMY



Modeling the features of characters is something that has caused problems for many artists over the years. A good model can easily be spoiled by an incorrectly modeled feature, such as a hand or an ear. This eBook offers a step-by-step guide to help you make sure you never struggle with feature modeling again, presenting detailed chapters that have been written specifically for 3ds Max, Maya, Cinema 4D and modo.

CHAPTER 2 | MAY ISSUE 069 Eves

CHAPTER 3 | JUNE ISSUE 070

CHAPTER 4 | JULY ISSUE 071

CHAPTER 5 | AUGUST ISSUE 072 Feet

> CHAPTER 6 | THIS ISSUE Skin

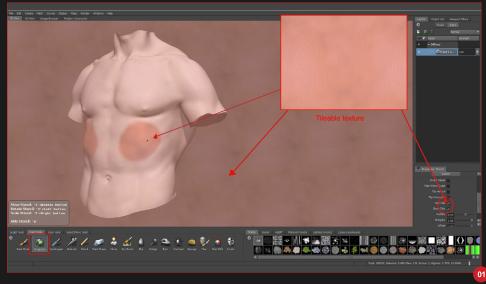
Chapter 6 - Skin

Software used: 3ds Max

Welcome the last anatomy tutorial, where we are going to create a skin texture by hand. This is an arduous task and in most cases you will get the best results by using photo references, but the photo manipulation technique requires advanced understanding and is less fun.

I am going to talk about the process I use to texture in Mudbox. Mudbox's texturing tools are basic, but also very intuitive and easy to use. Learning how to use Mudbox should be fun so I would like to recommend this program. You can texture skin using the regular Photoshop workflow, which does have its advantages, but by using 3D packages you can make everything a little easier and more comfortable. Programs like Bodypaint, Mudbox and the new and powerful Mari can really help your workflow.

This tutorial is introductory so I will explain a couple of tools that you should know about before the tutorial starts. Try to study the main UI in Mudbox. It is so easy to understand and you can probably learn a lot about it in a couple of hours!

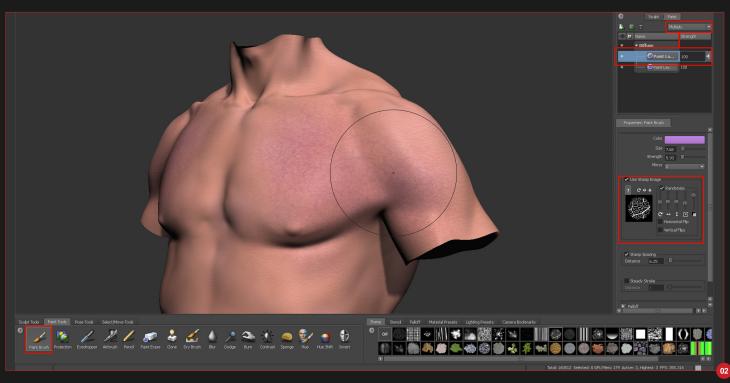


I started by creating a tileable base skin texture in Photoshop to create a basic stencil in Mudbox that will serve to give color to our model. You could start with a solid color, but I recommend this method because it adds a more authentic feel.

The next step is to insert the new stencil from the image browser. Switch on the Tiles option and make a smaller stencil using the S key. Use the Move, Rotate or Scale options to adjust your stencil. Switch on Paint in X Mirror mode and use the Projection brush to paint. This tool projects the texture information to your model.

Other brushes could also do this in black and white, but with the Projection brush we get the color we want as well (**Fig.01**).

Once you have established your base color you need to add more color detail with the Paint Brush tool and some different stamps. When you do this remember to activate Randomize. I started adding detail with a light purple. This will give a good tone to our texture. Each time we add something we should create a new thin layer of color. Remember to create new layers and not to work in a linear way, and use blending between layers (Fig.02).





Chapter 6 - Skin MODELING FEATURES OF THE HUMAN ANATOMY

Continue to work with new layers to give variety to your texture. It's essential to simulate the feeling of human skin. With a photograph this is easier, but you will always have some shadow and light on it that you can avoid in your own color texture. Continue with the original method but with different colors and types of stamp. In this case I chose a light red tone. You can select some strategic areas to paint, such as between muscles or areas where skin is thinner (Fig.03).

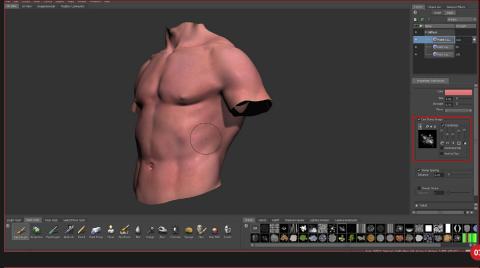
You should have created different layers with blending modes and also used different stamps to achieve a varied result. Now choose a purple color with a mottled stamp and add to the skin (Fig.04).

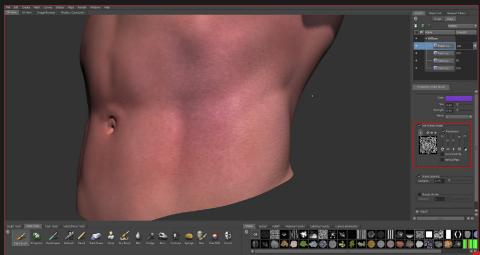
The texture may start to look a bit too red at this point so you will have to reduce this. Choose a yellow color and paint wherever you feel you should (Fig.05).

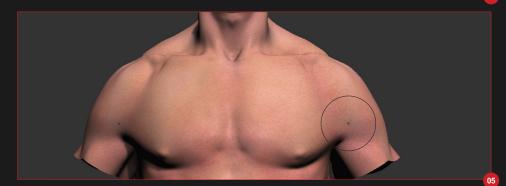
At this point we can collapse our textures. Mudbox is not Photoshop so you can't keep lots of layers without overloading it. It is therefore essential to make sure you collapse your layers from time to time. Double click on the layer options and select Merge Visible.

If you see areas that are too saturated you can use the Sponge brush to change the tone of your texture. Use it with caution though.

Now you will need to paint the freckles and veins that do not require fine modelling. This will create a more natural and realistic texture. The first layer will be the freckles. Remember to use a new layer in Overlay mode for this and use opacity options to control it. Use different colors for variety.





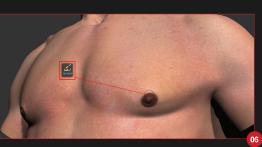


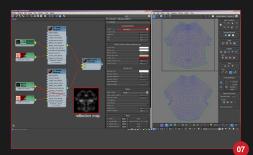
Finally add some details such as nipple color. For the nipples you can use the Dry Brush tool. That brush is very useful when painting cavity areas (**Fig.06**).

At this point you have completed the color, but you can do some final tweaking when it comes to doing some tests.



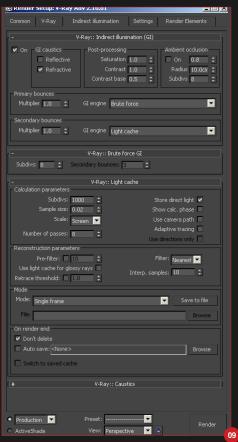


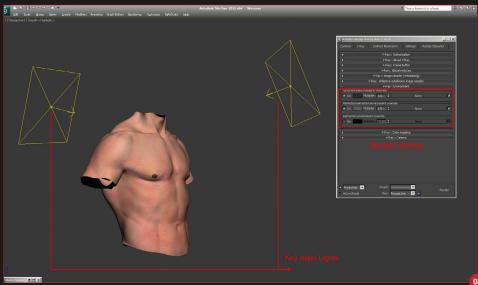




Now it's time to work in 3ds Max. I will use a VrayFastSSS2 material. The shader is quite simple to use and with default settings it is possible to get good results. First of all prepare your model by creating a material Multi/Sub object. Because my model has two UV regions I will create a VrayFastSSS2 for each UV region. Notice how I've created a Reflection map with a lot of flakes (Fig.07). This will make our reflections look good. It's important to use a good map because I'm not using any Bump or Normal maps because I exported the high density mesh to render.

For the lighting setup I've used a basic two light set, although I get some global lighting from the skylight in the Environment tab (**Fig.08**).





Finally I used the universal V- Ray settings (Fig.09). These settings are specifically designed to work well in a lot of environments. I'm not worried about an optimized result or a fast render because it's not a render for production with a complicated scene, so we can use high and almost default settings. Luckily I haven't had to tweak the subsurface shader too much and with a basic set of lighting I got good results.

I hope that you have enjoyed all the tutorials. See you next time (**Fig.10**).

JOSE LAZARO

For more from this artist visit:

http://josemlazaro.com/

Or contact them at:

hallohello@gmail.com





MODELING FEATURES OF THE HUMAN ANATOMY



Modeling the features of characters is something that has caused problems for many artists over the years. A good model can easily be spoiled by an incorrectly modeled feature, such as a hand or an ear. This eBook offers a step-by-step guide to help you make sure you never struggle with feature modeling again, presenting detailed chapters that have been written specifically for 3ds Max, Maya, Cinema 4D and modo.

CHAPTER 2 | MAY ISSUE 069 Eves

CHAPTER 3 | JUNE ISSUE 070

CHAPTER 4 | AUGUST ISSUE 071

CHAPTER 5 | AUGUST ISSUE 072 Feet

> CHAPTER 6 | THIS ISSUE Skin

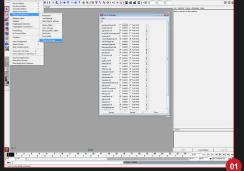
CHAPTER 6 - SKIN

Software used: Maya

Skin can be a very complex issue when it comes to game art as you are basically trying to get as much as you possibly can with very limited resources. Most games do not have true Sub Surface Scattering or the ability to get into fine details such as peach fuzz and multi-layered shaders due to the cost. So we need to cut corners and fake as much as we can as cheaply as we can. In this tutorial I will show you some of the tricks that are common in many of today's games through the use of viewport shaders.

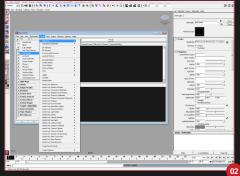
The viewport shader that I will be using in this tutorial is Laurens Corijn's "Xoliul Shader v1.5" for Maya. It is compatible with any version of Maya beyond Maya 2008 and is fairly easy to set up. Download the files from his website, http://www.laurenscorijn.com/viewportshader and make sure that you have "hlslShader.mll" enabled in the Window > Settings > Preferences > Plug-In Manager within Maya. After that you will need to enable Hardware Texturing in your scene to display HIsl materials properly (Fig.01).

The next step is to create an HIsI material in the Hypershade menu. Open Rendering Editors > Hypershade and navigate to Create > Materials > HIsI Shader (**Fig.02**). This will create what appears to be a solid green ball in the materials



window. If you click on this, you can access it's properties and assign your Xoliul shader. Simply click on the folder icon next to Shader File and navigate to the .FX file you downloaded in the previous step. Once the file has loaded in then you will see a roll out of options that will begin to fill in

When it comes to skin, at least in video games, it all comes down to two-dimensional textures. Though that may sound obvious at first, each map plays a vital role in creating our skin's appearance. To begin, I start with a normal map - a texture baked down from a higher resolution model to a low resolution "game" model. Each RGB channel represents a direction for faked lighting to create an illusion of a model having more detail. For this example, I have a head that I have previously created both the high and low resolution assets for. Generally, I use normal maps to fake bigger forms like general smoothness, hollowing cheeks, wrinkles etc. But adding a fine layer of stubble and surface detail can really add a lot to your skin's



final appearance (just be sure not to go too overboard as the skin will start to look like rock) (Fig.03).

In the Material Properties tab, scroll down to bUseNormalMap and enable it. This will tell the material that a normal map will be factored into the final look of the model. Slightly below that specify which normal map you will be using. Depending on how you baked your normal maps, the green channel may need to be flipped/inverted. This can either be done in an external application like Photoshop or flagged in the material. So, if your model looks a little off when you apply the normal map texture (as in it looks as though the model is receiving lighting information incorrectly) the green channel may just be wrong.

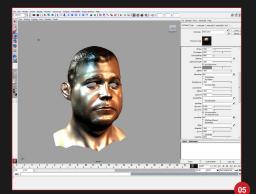
Another step you will need to take is setting up a quick light rig for your model (**Fig.04**). I use one to three point lights as that range is fairly accurate to how many dynamic lights could be affecting the model in a game engine. First I







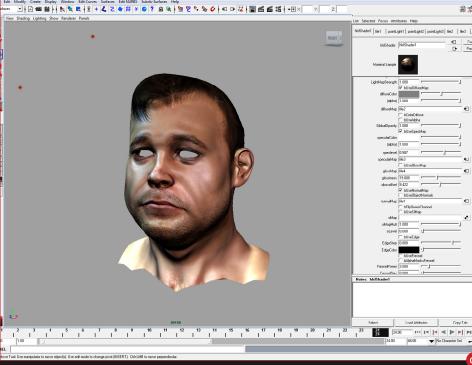
Chapter 6 - Skin | MODELING FEATURES OF THE HUMAN ANATOMY



create my three point lights and move them into position; usually a strong backlight behind the model, a key light off to one side (in this case, it is on the right-hand side) and a fill light on the opposing side. In the material properties you can list the number of lights that will be active in the scene; right click over "light1_Position" and select a point light in the scene. After you select a light you will also be able to set the intensity and color of the lights that are being used (light properties in the actual Maya scene are ignored, so, if you want a strong blue light you will need to specify that in the material, not on the actual light).

Next I add a diffuse map. This is basically just the color of the skin and, in this case, heavily photo-sourced from well-lit images (Fig.05). For current generation games, good diffuse textures will have a very limited amount of lighting information baked into them and, for skin, will have very little pore detail as that information is handled in the normal and specular maps. Like the normal map application, scroll down to bUseDiffuseMap and navigate to your diffuse texture. You also have the ability to color tint your skin texture with the ColorDiffuse option. You can also specify if the diffuse map has an alpha channel that will be used, which I will cover in a future step.

As you can see, the skin is way too shiny. To remedy this, I use a colored spec map, which will drive the color of the lighting information reflected from the skin. I usually use a slight blue for the skin and roughly the color of the hair for the hair spec. After plugging in the specular



map, the SpecularColor option basically becomes void, but you can then control the actual specular intensity and how glossy the surface is. If you have drastically different surfaces on your model, you can also create a gloss map that will control how glossy different surfaces are (Fig.06).

Next, I enable HalfLambert, which will fill out the model and make the shading less harsh.

This technique became popular in Valve's

Team Fortress 2. With too strong settings it can lead to cartoon-like results. I also increase the HueAdjust values to fill out the skin with nice red tones (Fig.07).

From here I add a light map. This doesn't have a flag but instead just needs a texture plugged in. Light maps are usually the same as an Ambient

Next add a fresnel, sometimes referred to as a rim shader, to your skin. This can add a lot to your character as it will pop the model off of the environment. Some game engines will use a dominant light to drive the color of the fresnel as well as control its intensity based on lighting conditions. In this case, I use a near white color

Occlusion map (more or less a 2D texture that has lighting information baked into it). For this material, I use it at a low setting to brighten the skin (Fig.08).

Depending on the game engine, it may be required to pack the Light map, Specular map and Gloss into one texture. This is as simple as copying each texture into a specific channel (for example: Green = Spec, Blue= Gloss, Red = Light map).





Issue 073 September 2011

MODELING FEATURES OF THE HUMAN ANATOMY Chapter 6-Skin

3dcreative

simulating sky lights and keep the values fairly low. FresnelPower in this shader is actually the spread/falloff along your model with FresnelMult actually being the intensity (Fig.09).

Finally, I use the alpha from my diffuse texture (mentioned earlier by enabling bUseAlpha) and mask out the fresnel effect under the skin and under the nose as it can lead to weird results (**Fig.10**). This is a step that is on a model per model basis as not everything needs this type of masking.

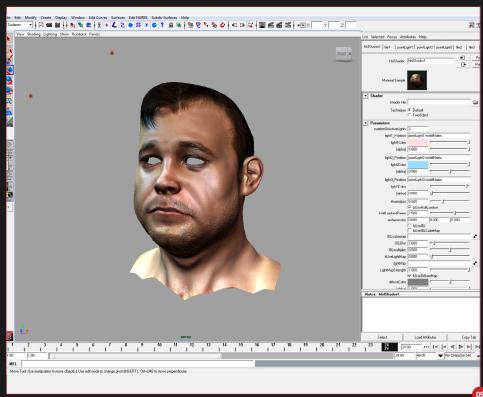
Gavin Goulden

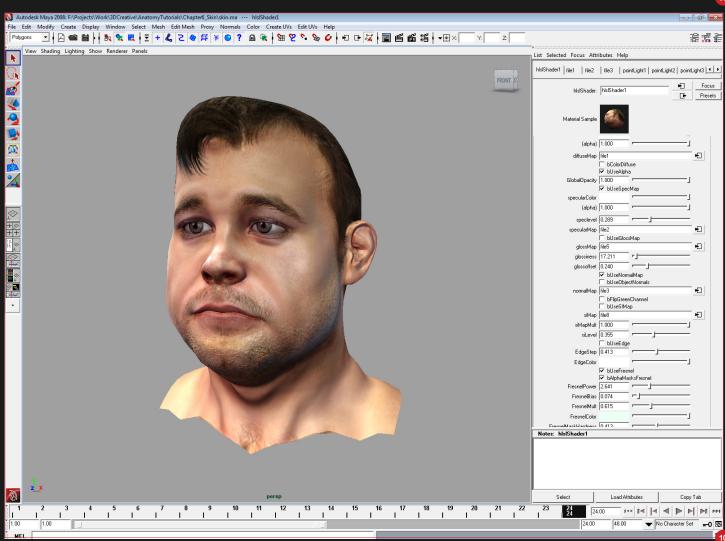
For more from this artist visit:

http://www.gavimage.com/

Or contact him at:

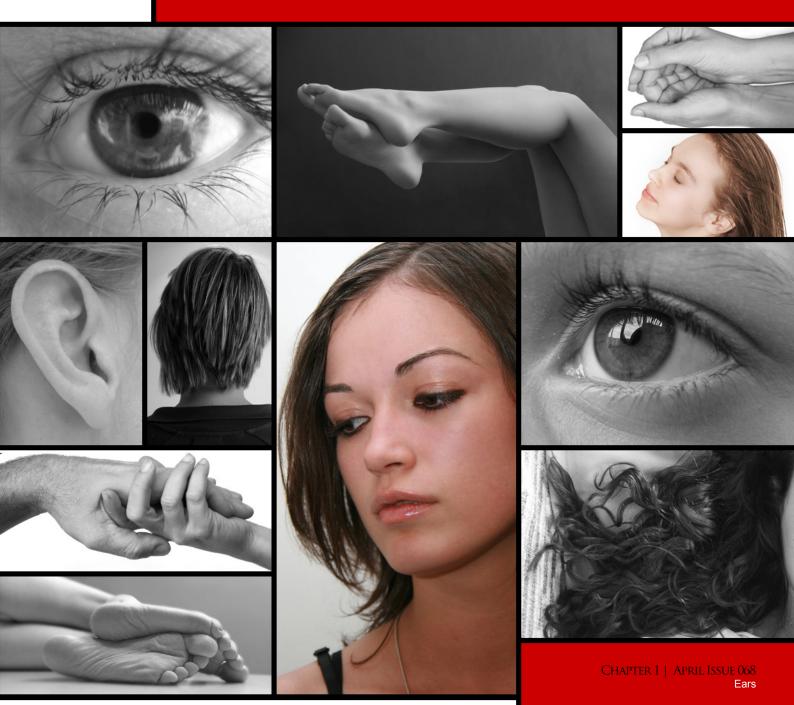
gavin@gavimage.com







MODELING FEATURES OF THE HUMAN ANATOMY



Modeling the features of characters is something that has caused problems for many artists over the years. A good model can easily be spoiled by an incorrectly modeled feature, such as a hand or an ear. This eBook offers a step-by-step guide to help you make sure you never struggle with feature modeling again, presenting detailed chapters that have been written specifically for 3ds Max, Maya, Cinema 4D and modo.

CHAPTER 2 | MAY ISSUE 069 Eves

Chapter 3 | June Issue 070

CHAPTER 4 | AUGUST ISSUE 071

CHAPTER 5 | AUGUST ISSUE 072 Feet

> CHAPTER 6 | THIS ISSUE Skin

CHAPTER 6 - SKIN

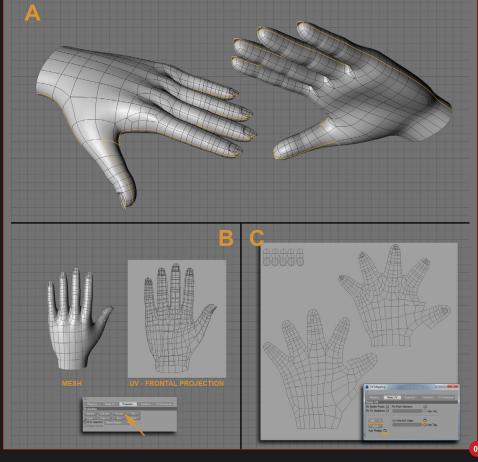
Software used: Cinema 4D

For this tutorial I will use the hand model that I made in a previous tutorial. You need to start by creating a UV. Switch to Edge mode and select the profile of the hand (Fig.01a). Switch to BP UV EDIT mode and select Front projection (Fig.01b). In the Relax UV panel select the Cut Selected Edge and Auto realign options and click Apply in ABF mode (Fig.01c).

The next step is to photograph the back and palm of your hand. You could also look for free images on the internet. Create a new material and import the images (as a single file) in the color channel. To save time, do not change the image in the UV but use instruments like the UV Magnet tool (**Fig.02a**). In the Image Layers panel click with the right mouse button and select the item Texture > Save Texture. A panel will open and you can choose the save format. Call the new file "Hand Bump" (**Fig. 02b**).

Go to the image you saved in the bump channel.

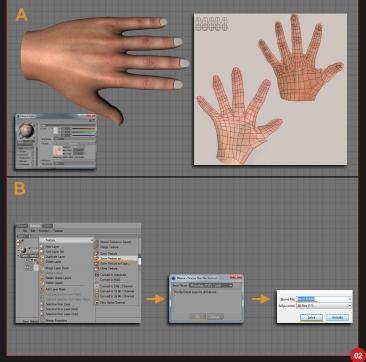
In the Image Layers panel click with the right mouse button and select the item Texture > Convert to Grayscale (Fig.03a). In the Filters

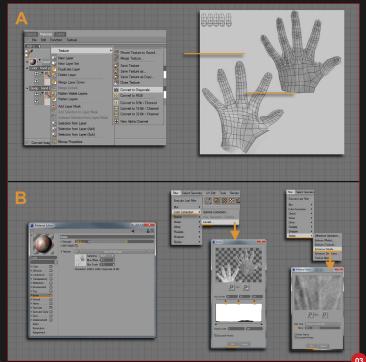


panel select the item Color Correction > Levels; a panel will open to you where you can adjust the image through lights, shadows and midtones. Now you can increase the sharpness of the texture using Stylize > Details Enhance

always in the Filters panel. Increase the strength of the bump to your liking (**Fig.03b**).

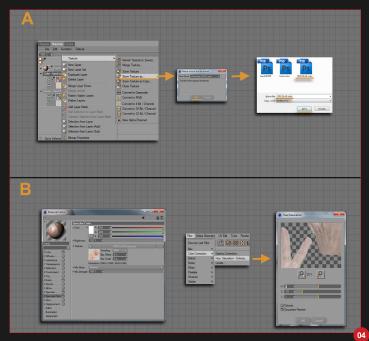
In the Image Layers panel click with the right mouse button and select Texture > Save

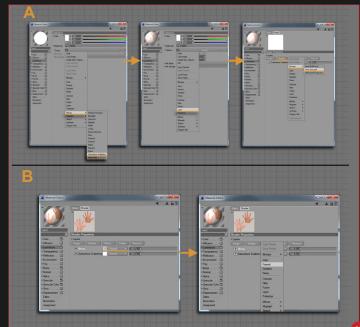






Chapter 6 - Skin MODELING FEATURES OF THE HUMAN ANATOMY





Texture; a panel will open where you can choose the save format. Call the new file "Specular Color" (Fig.04a). Enter the image you just saved in the Specular Color channel. In the Filters panel select Color Correction > Hue, Saturation > Colorize and desaturate the map you just created (Fig.04b).

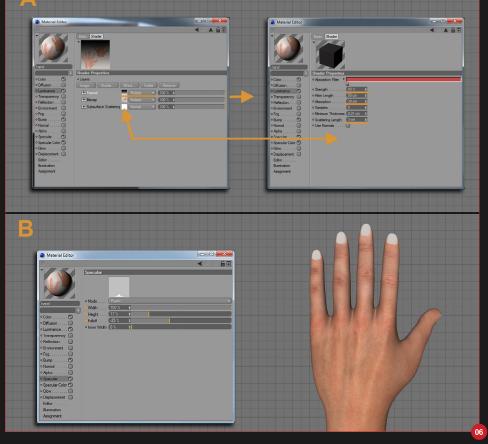
Turn on the Luminance channel in the Material Editor and click on Texture > Effect > Subsurface Scattering. Still in the Texture panel, select the item layer, click to the item Shader > Bitmap and choose the map called Hand-color (Fig.05a). Set the Bitmap layer to Multiply. This way you will scatter doses according to the color of the map. Click on the shader and select Fresnel (Fig.05b).

Set the new layer (Fresnel) to Multiply. This means the scatter will only act in accordance with the angle of incidence. Now click on the first level (SSS) and enter in the Shader Properties for scattering. First give it a red color with Strength of 80%, Filter Length of 50cm, Absorption of 30cm, Minimum Thickness of 0.01cm and Scattering Length of 3cm. To create a stronger scatter, increase the Minimum Thickness (Fig.06a). In the Material Editor, select the item called Specular and add specular to the material. Remember, you are trying to

make it similar to that of human skin. Keep the values low or you may make your skin too shiny (Fig.06b).

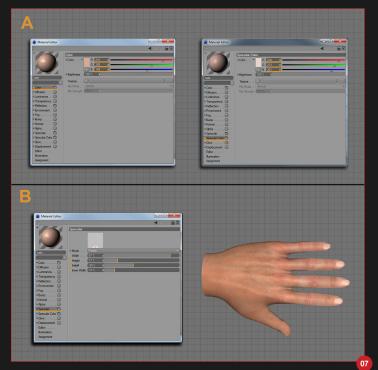
Create a new material and call it "Nails". You can switch to Polygon mode to select the nails. Drag the new material to the selection made.

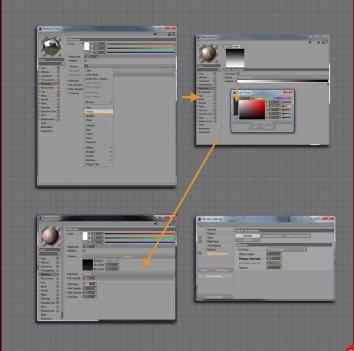
This will add the new material to the nails. Go to the Item Color option and give the nails a color similar to the skin. Activate the specular color and give it a color similar to the previous one. At your discretion you can activate the bump channel and give it a small amount of noise to obtain a polished effect. You can activate



MODELING FEATURES OF THE HUMAN ANATOMY Chapter 6-Skin

3dcreative





the reflection channel (again only very lightly) (Fig.07a). Click on specular and change the parameters to your liking based on the results that you want to get (dull or glossy nails). Render a test with the default lighting to see the result and choose what you like (Fig. 07b).

Select the hand material and then open the Material Editor and check the Reflection option. In the Texture panel select Fresnel and enter the shader properties for Fresnel to give

yourself a white to dark gray color (white = 100% reflection, Black = 0% reflection). In the Material Editor set the blurriness to 25% so you have reflections but you avoid a mirrored effect. At this point you have finished with the maps and materials. Open the Render Settings panel and activate Global Illumination with Primary Intensity set to 30% (**Fig.08**).

At this point there is nothing else to create, you just need to set your light. You can see the

settings I use in **Fig.09**. Move and change the lights at your leisure. Also try to use less light and try to light using a HDRI, but remember to increase the Primary Intensity of the Global Illumination (**Fig.10**).

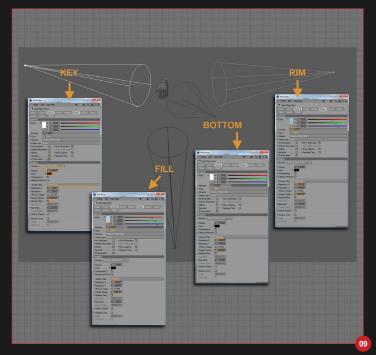
LINO MASCIULLI

For more from this artist visit:

http://www.linomasciulli.com

Or contact him at:

cardinal_@hotmail.ir







MODELING FEATURES OF THE HUMAN ANATOMY











CHAPTER 1 | APRIL ISSUE 068 Ears

CHAPTER 2 | MAY ISSUE 069 Eves

Chapter 3 | June Issue 070 Haii

CHAPTER 4 | AUGUST ISSUE 071

CHAPTER 5 | AUGUST ISSUE 072 Feet

> CHAPTER 6 | THIS ISSUE Skin

Modeling the features of characters is something that has caused problems for many artists over the years. A good model can easily be spoiled by an incorrectly modeled feature, such as a hand or an ear. This eBook offers a step-by-step guide to help you make sure you never struggle with feature modeling again, presenting detailed chapters that have been written specifically for 3ds Max, Maya, Cinema 4D and modo.



MODELLING FEATURES OF THE HUMAN ANATOMY Chapter 6 - Skin

3dcreative

Chapter 6 - Skin

Software used: modo

This is the sixth chapter of the Modeling
Features of the Human Anatomy series and in
this chapter I am going to talk more about some
texturing and shading techniques in modo.

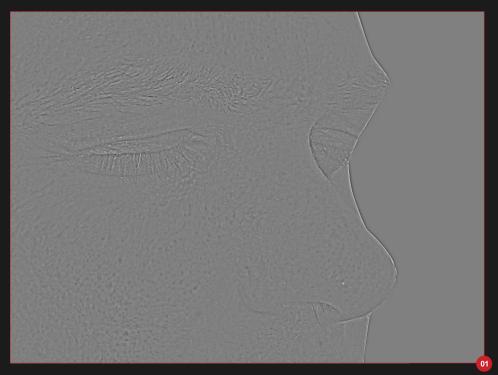
Human skin has always been difficult to render due to natural phenomena called subsurface scatter. Luckily for us shader programmers have come up with programs that mimic the same phenomena in a CG environment. Despite all the technology available these days the key factors for producing high quality skin rendering is still in the hands of the artist. The best way to solve this problem is by learning a bit about the skin's anatomy and what really happens when light hits human skin. So let's start with some simple explanations regarding skin anatomy.

The skin is the biggest human organ and with its multiple layers skin protects our body from all outer influences. Most of the skin is 2-3mm thick and it consists of a few different layers. I will refer to those skin layers as if they were different layered textures.

First light contact appears on the top-most layer of the skin, which is the most reflective and often referred to as the oil layer. Different body parts have a different percentage of this oily layer so they are more or less reflective. When it comes to the face the nose, lips, chin, frontal part of the forehead and the most prominent parts of the cheek are the most reflective. To better control these reflections we will make a gray tone reflection texture later.

Next is the epidermal skin layer, a top layer that we are going to simulate through use of diffuse textures, which will hold all color information for the skin.

The bottom layer is one that will give us the scattering effect and it's usually called the sub-



dermal layer. We will make the texture for that layer by editing the epidermal texture.

What really happens when light hits the skin? A small percentage of light gets reflected in normal directions and the more oily skin reflects the most. Some of the light gets reflected from the top skin layer and some penetrates into the skin through the sub-dermal layer to the muscles and other tissue. Of the light that gets inside the skin it's only a small percentage that gets reflected. Due to the scattering effect the reflection is highly blurred and colored by the contact with the red underlying tissue. This strange effect makes human skin so beautiful and hard to paint and render.

Texturing skin is a process that demands planning and preparation. Most artists use two different techniques; one is projecting photographic elements and the other is hand painting. I personally think that a mix of both techniques is what gives the best result.

First of all your model must have clean and readable UV coordinates. Modo is packed with one of the easiest and most efficient tools for UV layout you can find in any of the 3D packages.

page 93

So even if you don't have UVs you can make them quickly by assigning edges and pressing Unwrap. You can practice with an already prepared piece of geometry which I have provided with this tutorial.

The first task would be to prepare your images for projecting. Again you can use your own source or use images I am including with this tutorial. We are first going to concentrate on the pore details and wrinkles, which are going to be rendered using the bump map. The bump map is a grayscale image so let's make some grayscale images suitable for projecting bump details.

Open an appropriate image in Photoshop and apply the Black And White filter with the red parameter at around -50%. Next apply a High Pass filter with a radius of roughly three pixels, which is in this case is approximately the size of the skin pores on the image. If you have done everything right so far you should have something similar to **Fig.01**.

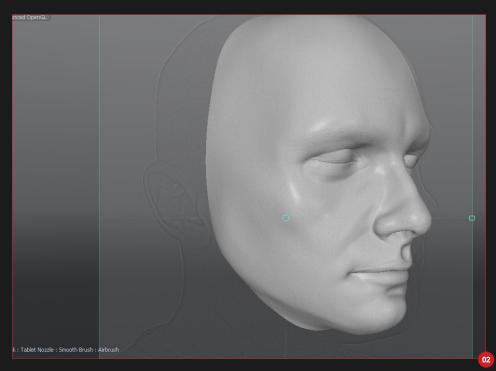
Now set the new material to the geometry you are texturing and call it "skin". In the shader tree under the newly created skin material add the

Chapter 6-Skin MODELING FEATURES OF THE HUMAN ANATOMY

new image with the size your texture is going to be. I am going for game resolution and my texture will be 2048 x 2048. Name this image "bump texture".

I hope that you own some kind of graphic tablet because painting textures is really painstaking if you are using a computer mouse. Now go to the Paint tab where you will get a nice layout adapted for texture painting. Use the Airbrush and click on First Falloff, Nozzle and Image Ink. Under the Image Ink options load your image prepared for bump projection. Now roughly align your image and geometry as I did in Fig.02.

Also check the Auto Scale option in the image Ink parameters to make your image scale as you zoom in to your geometry. This is a really handy function, but it works best with a flat perspective. To make modo's perspective flat go to Preferences and change Flatness of Perspective to 100%. Now it's time to project



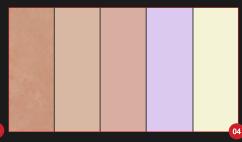
some textures. Give yourself a couple of free runs to familiarize yourself with this system of texture painting. Repeat this process with all three images.

You can probably get away with texturing only one side and mirroring the texture to the other half, but if you want some more variation in your texture then hand-paint both sides. If you have left any unpainted spaces make sure to fill them with approximately the same gray color as the rest of the texture. You can also draw additional wrinkles and pores with airbrushes using a few variations of a dark or light gray color. You can see the result I came up with after painting bumps in Fig.03.

Now it's time to make some skin color. This texture will be a diffuse map and will determine the overall coloration of the surface. So make a new texture and fill it with a base skin color. Skin is not one constant color, but its true beauty lies in the different shades of red, pink, white, blue and many other colors it contains.

Fig.04 illustrates some different shades I will be using to paint the texture. As a starting point





MODELLING FEATURES OF THE HUMAN ANATOMY Chapter 6 - Skin

3dcreative

I sampled a patch of skin from a photo and copied it all over the diffuse map. This layer is only a starting point and the rest of the color has to be carefully hand-painted. You can again use modo's texture projection capabilities or you can simply use Photoshop for this task.

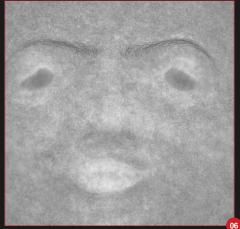
Painting skin tones is not something that can be explained step-by-step, but I can give you a bit of advice. The first thing you have to know is that this process can last more than a couple of hours because you have to carefully layer all the shades gradually by adding more and more splotches and noise. It took me about 90 minutes to complete the color texture for this tutorial. Always use reference images! Fig.05 demonstrates how those shades look mixed up together in the skin texture.

Now let's reuse the skin color texture to generate a reflection map. Although you will get better results if you carefully paint the reflection texture. Here is a quick trick that you can use to make a decent reflection map by reusing existing maps. Open your skin texture in Photoshop, choose the Black and White filter and tone down the slider for the red color all the way down until you see areas on the lips, nose and cheeks getting almost black. Then go again



to the image adjustments and chose Invert. You can use **Fig.06** as a reference for adjusting the Photoshop filter.

Now it's time to set up the shading network. Make a new material and name it "skin". Add the skin texture color and make sure that it's set to effect diffuse color. Add the bump texture and set the effect to bump. Depending on the differences between the light and dark values of the bump map and scale of the model, set the bump amplitude to 10mm under the material properties. Also load the skin reflection texture and set the effect to reflection amount and set a value for the Fresnel of around 12%. Duplicate the reflection texture and set the effect to subsurface amount. Now duplicate the color



texture and set the effect to subsurface color.

Also adjust the low and high value of the image to make it more reddish.

For an in depth look at the shader setup take a look at the file I have included with this tutorial. Set the subsurface amount to 20%, scattering distance to 3mm and front weight to 70%.

Fig.07 show the result of this technique.

ANTO JURICIO

For more from this artist visit:

http://anto-toni.cgsociety.org/gallery/

Or contact him at:

monty.band@gmail.com



- Free References









Is a resource website for the CG community; amongst our growing number of products for CG artists, we produce two monthly downloadable PDF magazines – 2DArtist and 3DCreative. We are based in the West Midlands, in the UK, and our intention with our magazines is to make each issue as full of great articles, images, interviews and tutorials as possible. If you would like more information on 3DTotal or our magazines, or if you have a question for one our team, please use the links below.

CONTACT INFORMATION

http://www.3dtotal.com http://www.3dcreativemag.com http://www.2dartistmag.com

Editor & Content Manager > Simon Morse simon@3dtotal.com Lead Designer > Chris Perrins chrisp@3dtotal.com Marketing > Amy Bayliss amy@3dtotal.com

PARTNERS

If you have a CG community website and would like to support 3DCreative and/or 2DArtist magazine by showing our banners, please contact Lynette Clee at the email address above











































www.3dcreativemag.com

Issue 073 September 2011